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A REVIEW OF SCIENTIFIC PROGRESS IN TANGANYIKA DURING 1952

By the President, Mr. J. P. Moffett.

My predecessor, Mr. A. F. Morrison, in giving his 'Review of Recent Scientific Progress in Tanganyika" at the annual general meeting last year said that he hoped that he was establishing a precedent and that future presidents would address the Society on the same subject. In the belief that such a review serves a useful purpose and is of interest to the more scientifically minded of our members I have followed suit, but I have not delivered what follows as a lecture before the Society for the reason that the material was not all available at the date of the annual general meeting.

I am indebted to the Government of Tanganyika for permission to reproduce excerpts from departmental annual reports for 1952 and I wish to thank those heads of departments and individuals who were good enough to prepare notes especially for this paper, particularly the Director of Geological Survey, the Meteorological Officer in Dar es Salaam and Mr. N. R. Fuggles-Couchman.

AGRICULTURAL.

(a) Coffee.

No new trials were planted at the Coffee Research Station at Lyamungu in the Northern Province during the year, but four new clonal selection trials were laid out on native land and non-native estates in Moshi, Arusha and Oldeani. Recording of the 27 clonal and selection trials, the 4 agronomic trials and the 3 pruning and training trials on the Station was continued. Statistical analysis of the season's figures has confirmed the trends of previous years and the Station is now in a position to make firm recommendations regarding some of the fundamental aspects of coffee cultivation. The most outstanding of the findings are: the increase in yield which results from multiple-stem rather than single-stem pruning; the yield increase which results from using banana-trash mulch or moderate irrigation (or a combination of both) or from applying compost, and the yield increases which result from the use of seedlings from selected trees or of vegetatively propagated plants of a highly-yielding clone.

Treatments in the mulching and irrigation trials have now been altered in order to determine whether levels of these treatments lower than those previously recommended can be as effective, or nearly so. There are now indications that pruning single-stem coffee immediately after harvesting rather than delaying this operation for some months, results in increased yield. Some remarkably high yields were obtained from the clonal and seedling progeny of high-yielding trees, there being several instances among the seedlings of yields exceeding one ton of clean coffee per acre, and in one instance a yield at the rate of 31.75 cwts. of clean coffee per acre was recorded.

Investigations continued on the problems of "fruity," "onion" and "woody" flavours, storage under conditions of high humidity being absolved from causing the latter. There was an indication that susceptibility to "onion" flavour may be a characteristic of certain selections.

Work was commenced on devising a process for removing the mucilage from pulped coffee by enzyme or caustic action instead of by the normal fermentation process.

Vegetative propagation continued, though restricted by the heavy infection of mother-trees by *Hemeleia vastatrix* early in the year. Beta-indolyl actetic acid is now under trial as a rooting aid.

A start was made with the crossing of the most promising clones.

The Government Chemist has co-operated with the Senior Research Officer, Lyamungu Coffee Research Station, in the "black tip" investigation at the Mbozi Coffee Sub-Station, Southern Highlands Province. Coffee grown under greenhouse conditions was almost entirely free of "black tip" up to flowering, and observations continue. Sheltering mature coffee from sun or wind, or both, did not prevent the occurrence of the disorder. Recent work of the Government Chemist suggests that a manganese-induced calcium deficiency may be involved.

(b) Cotton.

The cotton research programme carried out at the Ukiriguru Experimental Station near Mwanza is designed to obtain higher yields, better quality and resistance to attack by insects and bacterial blight. The U.K. 46 strain is now in general use throughout the Lake Province and trials on what are considered to be even better strains, the U.K. 48 and U.K. 51, are proceeding satisfactorily. Field trials of these two strains were carried out in the Lake Province during 1952. The investigations of improved planting technique undertaken at Ukiriguru have resulted in an extension of these practices in the field, chiefly in the form of ridge cultivation, early planting and early weeding.

Substantial progress has also been made in cotton research at the Ilonga Experimental Station in the Eastern Province. An improved strain, 47/10, selected from the locally grown type, is being multiplied on select holdings. 47/10 has much improved lint qualities and gives higher yields than the local type. Further selection is proceeding and general distribution of the resultant seed begins in an isolated zone in 1953; the progressive introduction of this strain to all cotton growing areas in the Eastern Province is planned as seed stocks become available. Research at Ilonga has also demonstrated a successful method of control of American Bollworm by insecticides, and techniques for general field application are being worked out.

(c) Sisal.

The current programme of experimental work on the Tanganyika Sisal Growers' experimental station comprises 36 field trials, of which all but

9 are concerned with soil fertility and fertilisers and are of a very long term nature. In the factorial manurial trial on second cycle sisal now in its fourth year there is clear evidence that nitrogen has hastened growth, and on the only five plots which have been cut three times yields are comparable with those on virgin land. There are two experiments in progress testing selected agave hybrids, and cutting has started; out of 19 selections four are promising. Tests on tissues from the manurial trial show a clear relationship between application and uptake of potash and phosphorus, but the latter is also conditioned by the presence of nitrogen. The private firm engaged to investigate the control of sisal weevil has completed its work, and it now remains to be seen whether any estates will follow this up by offering contracts.

CHEMICAL.

Examination of some soils from Sukumaland have given some interesting results in regard to the Ibambasi or hardpan soils. These are usually so indurated in the subsoil that even tractor ploughing is difficult. It was first thought that silica was the cementing agent but it now appears that exchangeable catena are involved—the hardpan layer containing a rather high sodium content and above this layer there is often a high magnesium content. After confirmation of these data it should be possible to suggest simple chemical means for breaking up the hardpan in this extensive group of soils.

Field reconnaissance soil work has been carried out in the Pangani basin and in a number of other bottomland and some upland areas. The Pangani basin soils generally have been proved to be too salty for immediate development but laboratory investigations are indicating the lines along which field reclamation trials should proceed in the more promising areas.

Plant tissue investigations are continuing and though the "black tip" condition of coffee at Mbozi has not yet been cleared up, the conviction has grown stronger that it is a nutrient deficiency problem. The elements involved appear to be calcium, boron, manganese and possibly zinc. Pot experiments are in hand and it is hoped that these may also throw light on the difficult problem of calcium build up on tropical soils without trace element disturbance.

Other investigations have concerned ghee substitute made from beef fat and coconut oil, acidity levels in maize meal in connection with digestive disturbances amongst Africans newly introduced to this foodstuff and studies on the soil moisture regime under tarmacadam under tropical conditions.

VETERINARY.

Research work in the field of animal disease was carried out at the Veterinary Laboratory, Mpwapwa, studies being undertaken on the following problems:—

(a) The effect against *Trypanosoma Congolense* in Zebu cattle of three new Phenanthridine compounds administered at varying dosage

levels to susceptible cattle. One of the drugs tested proved well worthy of further field trials.

(b) A comparative virulence trial of two strains of *Salmonelia gallinarum* with a view to isolating an avirulent strain for use in Fowl Typhoid vaccine production.

(c) The initiation of an experiment directed towards the reproduction of the ill effects occasionally resultant upon the use of non-virulent Fowl Typhoid vaccine under field conditions.

Fundamental work on livestock research was also carried out at Mpwapwa with extension work at four stock farms situated in four different ecological zones within the Territory. Recording work devoted towards the collection of livestock breeding and production data from these four main stock farms was extended to a number of smaller Government stock farms and dairies. Studies on the following were initiated:—

(1) Animal Breeding.

(A) BEEF CATTLE—To compare the relative merits of—

(a) Hereford, Afrikander and "improved" Boran sires for crossing with foundation herds of (i) Tanganyika Zebu and (ii) Boran cattle from Kenya and the Somaliland border, with the object of producing an ideal type of ranch cattle for use in Tanganyika. Criteria of comparison include "viability" within the environment of good ranching conditions (including disease, water and grazing control within the limitations imposed by adverse seasons), fertility, early maturity and carcase quality. The experiments were split over two environments—the central plateau and the northern highlands. The whole experiment is planned on a statistical basis and estimated to cover a period of fifteen years in two stages of 5 years and 10 years.

(b) A selective breeding experiment to "improve" Boran cattle was concurrently with (a) using two strains of Boran stock. Criteria of selection and conditions are similar to those in (a) above and the breeding plan involves progeny testing under statistically controlled conditions.

(B) DUAL-PURPOSE CATTLE.

(a) An experiment to compare the relative merits of Sukumaland Zebu cattle, Boran cattle and various admixtures of the blood of both strains for dual-purpose production under good farming conditions in Sukumaland, Lake Province.

It is proposed to submit both foundation strains to approximately similar selection pressure, and a control herd of local Zebu cattle is being kept for breeding with a wide sample of local unimproved bulls to maintain a representative sample of local cattle

A further herd of "partially improved" Zebu cattle representing a few generations of selection (mostly for milk production) among the progeny of crosses between Indian Zebu cattle (Sahiwal and Red Sindhi) and local Tanganyika Zebu cattle, is being maintained concurrently under the same conditions to compare rates of "improvement."

(b) Plans for similar selective and comparative breeding of dual-purpose cattle, involving Boran and local Zebus from the Southern Highlands of Tanganyika, are proposed for introduction at Iheme, Southern Highlands. This experimental breeding will include comparisons of various degree of Dairy Shorthorn blood with the two foundation breeds.

(C) DAIRY CATTLE

(a) A herd of cattle representing a selected progeny of crosses between Indian Zebu (Sahiwal and Red Sindhi) and Tanganyika Zebu cattle over a few generations is maintained at Mpwapwa, and further selective breeding is in progress.

(b) Plans are in hand for the establishment of a herd of pure Tanganyika Zebu cattle at Mpwapwa for milk production, and likely foundation animals are now being collected from various sources.

(c) An experimental breeding programme has been initiated for the selective breeding of pure Boran cattle for milk production under Northern Province conditions at West Kilimanjaro, involving progeny and subtesting under controlled conditions.

(d) An experiment to compare the dairying merits of Boran cattle carrying various proportions of Guernsey blood with the two pure breeds has been initiated at West Kilimanjaro.

(e) A similar experiment to compare the dairying merits of Boran and Southern Highland Zebu cattle with crossbred animals having various proportions of Jersey blood will be initiated at Iheme when adequate foundation animals have been accumulated.

(f) It is proposed to introduce an experimental breeding plan at Tanga to compare the relative merits of Boran and Jiddu cattle, from Kenya, with the selected progeny of crosses between Indian Zebu (Sahiwal and Red Sindhi) and Tanganyika Zebu cattle, for dairy production under the coastal conditions of East Africa. Foundation animals of each breed are already being recorded for this work.

(D) OTHER FARM STOCK.

(a) **Sheep.** It is proposed to introduce selective breeding experiments with sheep for mutton production in the Northern, Lake, Central and Southern Highlands Provinces, and for pelt production in the Northern Province as soon as facilities permit, but as the farms

are still in the developmental stage adequate control of the experiments cannot yet be applied. Breeds in hand and under consideration include Black Head Persian, Karakul, Wiltshire Horn, Kordofan, Masai, and local Tanganyika black and white.

(b) **Goats.** It is proposed to introduce selective and comparative breeding experiments with goats for meat and milk production under coastal conditions at Tanga as soon as facilities permit. Boer goats from South Africa are already on hand for comparative breeding for meat, and negotiations are in hand for the purchase of Jamna Pari, and possibly Beetal, goats from India or Pakistan for comparative dairy breeding.

It is hoped that "improved" goats may ease the supply of milk and dairy products within the tsetse infested areas of the Territory.

(c) **Pigs.** A stud of Large White pigs is maintained at Mpwapwa, at Iheme and at West Kilimanjaro, but selection at present is limited to "viability" and prolificacy rather than to carcase type as local demand for pig products has varied markedly within the Territory.

An introduction of Large Black pigs has been made at West Kilimanjaro, but they have not yet been developed.

Wessex Saddleback pigs are also maintained in the Northern Province, but have not yet been developed.

(d) **Poultry.** Plans have been made for experimental breeding programmes to be followed at Mpwapwa to compare the rates of improvement resulting from sire selection based on pen recording (based on Dr. Haagedoorn's nucleus breeding scheme) with that resulting from individual selection and recording (based on Dr. Perner's recommendations).

The experimental flocks include White Leghorns and Rhode Island Red.

(2) Pasture Analysis.

An experiment is in progress to determine the monthly variation in chemical composition and growth rate of typical pastures under various cutting treatments at eight farms, each representative of a different environment within the Territory. The experiment is centrally controlled and replicated three times on each type of grazing at each farm.

Monthly samples are also taken at each farm of herbage selected by grazing cattle—the assistant following marked individual animals whilst grazing, and collecting samples as nearly equivalent as possible to each mouthful taken by the experimental animal.

It is hoped that results of this experiment, continued over two or three seasons, will provide useful indications of the limitations of nutritional environment on livestock production in the areas represented, and also assist in providing information on the effects of various managerial systems of grassland husbandry from which recommendations for the field may be formulated.

(3) Environmental Physiology.

One of the principal lines of work which it is proposed to undertake in this section is the study of the detailed physiological reactions of cattle to various environments experienced in Tanganyika with a view to determining the nature of factors which tend to promote adaptability to such environments and to determining the "heritabilities" of such factors.

It is hoped that the application of the results of such determinations may enable limiting factors militating against complete adaptability to an environment to be identified within specific populations of cattle, and enable genetic selection to be introduced to remove such factors, or crossing employed to introduce suitable factors for adaptability where these appear to be missing from any particular population.

A number of analyses have been made of blood samples drawn from local Zebu and various crossbred cattle, of various ages, to obtain information on the variation within the various herds maintained under different husbandry conditions at Mpwapwa. Most attention has been given to blood phosphates during 1952.

(4) Fertility in Cattle.

A statistical investigation into the heritability of fertility in cattle, and factors affecting fertility based on a large amount of data collected from artificial insemination centres in the United Kingdom is being carried out in conjunction with the Institute of Animal Genetics at Edinburgh.

MEDICAL.

The Sleeping Sickness Specialist has described experiments on the use of Mel.B and pentamidine in the treatment of sleeping sickness. Provisionally highly satisfactory results are reported following the administration of Mel.B in late and relapsed cases of rhodesian sleeping sickness. Of a small group of 8 cases treated with Mel.B, hitherto regarded as incurable, 7 are reported as being alive and well 12-14 months after treatment. This experiment is being continued and a final opinion on the value of this drug in the treatment of late cases of rhodesian sleeping sickness is withheld until a further period of observation has elapsed.

Experiments are also being conducted on pentamidine in combination with tryparsamide in selected cases of rhodesian sleeping sickness. The results so far reported do not suggest that this method is likely to supersede existing methods of treatment.

Although strictly not a research project, it is of interest to note the experimental use of streptomycin in a plague outbreak involving 346 cases and 50 deaths in the Singida district of the Central Province during 1952.

Remarkably successful results attended the exhibition of this drug in cases treated within three days of the onset of symptoms, especially bubonic and septicaemic plague without pneumonic involvement. A number of cases of primary pneumonic plague were reported during the course of the outbreak but there is no record of the results of streptomycin treatment in these cases except that it appears to have been less successful than in the case of the bubonic and septicaemic types.

The case fatality of treated cases varied with the celerity with which patients were brought for treatment after symptoms had commenced. It was also affected by the type of case. Case fatality was usually between 10 per cent and 15 per cent but in an isolated outbreak of 50 cases there were 20 deaths of which 11 were reported to be primary pneumonic plague. In all types where death occurred it was, in the majority of cases, within 12 hours of admission to hospital. The average total dosage of streptomycin worked out at a little under 4 gms. for adults and a little under 3 gms. for children (age details not given). The range of dosage varied from 1 gm. (in children) to a maximum of 6 gms.

Of the first 100 cases treated, 43 were discharged from hospital within 5 days and 31 more within 10 days.

An interesting feature of the response of bubonic plague to streptomycin treatment was that despite the dramatic improvement in clinical condition, i.e. temperature, tachycardia, malaise, there was no corresponding reduction in the size or tenderness of the bubo, irrespective of the duration of treatment. Many of the larger bubos became in fact septic. Following this observation, surgical removal of the bubo was undertaken as soon as the general symptoms had subsided and this was attended with uniformly successful results. Later the bubos were excised in four newly admitted cases while under streptomycin treatment. In two of these cases the temperature became normal within a few hours of removal and complete cure resulted following only 1 gm. of streptomycin.

At the Government Medical Laboratory, Dar es Salaam, investigations were undertaken on a variety of subjects of local interest, namely: latent homologous serum hepatitis in African infants and children; incidence of helminthiases in Dar es Salaam African children with special reference to post-parasite relationships; anaemias of pregnancy; post-operative tetanus; tropical ulcers; epidemiology of salmonellosis; the sickle cell trait.

TSETSE RESEARCH.

The research station at Shinyanga deals with studies of the biology of tsetse flies with the object of reducing the cost of control.

During the year particular attention was paid to *Glossina pallidipes*, a widespread species of great economic importance. Because its habitat is dense thicket, it is expensive to deal with by clearing and presents

difficulties in application of insecticides. Further it is difficult to catch and therefore offers special problems in field survey. It has recently been shown that if a catch of 10 male *G. morsitans* per 10,000 yards represents a population of 100 males to the square mile, a similar catch of *G. pallidipes* represents a population in the neighbourhood of 3,000. This index of "availability" has obvious importance in survey work, especially in relation to the epidemiology of trypanosomiasis, both in cattle and humans. The very much lower availability of females and young flies of both species explains the difficulty in studying breeding habits.

In this connection, important observations on seasonal changes in larviposition sites have been made for *G. morsitans, G. swynnertoni* and *G. pallidipes*. Studies in tsetse physiology in relation to feeding habits and fly behaviour are also in progress at Shinyanga, while facilities have been given to the Lister Medical Research Institute for studies on identification of blood meals of biting flies by agglutination tests. This work offers a future possibility of excluding certain species of game from destruction where tsetse control by shooting is carried out.

Useful results have also recently been obtained in the problem of maintenance of breeding colonies of tsetse flies in the laboratory, a technique very necessary for work on the trypanosome.

Another branch of work carried out at Shinyanga is the detailed study of the effect of native agriculture in modifying the bush in settlement schemes.

Finally, the facilities of the station for training in tsetse work have again been made use of by officers of the Tanganyika Government as well as of other East and Central African Governments.

The sub-station at Tinde of the Central Trypanosomiasis Research Institute, now forming in Uganda, has continued the long-term experiment of maintenance of a strain of *Trypanosome rhodesiense* and tests on the cyclical changes of virulence of this species have again been undertaken.

In connection with human trypanosomiasis, the Organisation keeps in close touch with the Sleeping Sickness Specialist at Tabora in the matter of the use and trials of new drugs and has his co-operation in producing a map showing the distribution of the disease in East Africa.

GEOLOGICAL RESEARCH.

Most work which can be described as research carried out by officers of the Geological Survey Department during 1952 arose either out of investigations in areas of potential economic importance, or as a result of material and information sent in to the laboratory by the general public. As a rule the attention which can be given is limited to their economic aspects, but it is usually possible, in addition, to record various features of long range interest.

The most extensive investigations carried out during the year concerned the salt deposits of the Territory. Geophysical exploration, carried out at

Uvinza with a view to locating the source of the salines there, gave some useful results. An investigation of the Ivuna salt deposits was also completed. The chief concern, however, was with the salt lakes and brine springs occurring in association with the Rift Valley structures in the northern and central parts of the Territory. It was previously considered that most of the salt in lakes such as Natron, Eyasi and Balangida was derived from the lavas and tuffs of this volcanic region as a result of leaching by surface waters. While some of the salt is undoubtedly derived in this manner, a great deal of the Rift Valley salt seems to be brought up from considerable depths and is a product of the volcanism of the area. The whole question of the salt is intimately bound up with that of the tectonics and igneous activity connected with the Rift faulting. That the vulcanism is not completely extinct was confirmed by the geologists who demonstrated the presence and actual formation of sulphur in the crater of Kilimanjaro.

Directly connected with this subject is that of the carbonatites. These are generally thought to represent the cores of ancient volcanoes, the tops of which have been eroded away. These cores consist largely of calcite or dolomite often with other carbonates such as those of iron and manganese, and in other parts of Africa contain quantities of phosphatic minerals, vermiculite, and several unusual, often radioactive, minerals containing a high proportion of niobium and tantalum. The demand for niobium in the manufacture of high temperature steels for jet and rocket engines makes the search for minerals containing this metal of considerable importance. Thus the possibility of the occurrence of carbonatites in Tanganyika was investigated and several bodies were located. Search for more carbonatites is proceeding, during the course of which information is being collected in connection with the detailed structure of our Rift Faults, with the mechanism of volcano formation and with the origin of the salt.

The work done for the mica miners and prospectors during the year involved the collection of a great deal of useful information on the rocks in which the mica occurs. The zonal structure of many of these pegmatites was examined in detail with a view to deciding the best part of any particular body in which to find commercial mica. Besides ordinary mica, other unusual but useful minerals, such as beryl, pitchblende, lepidolite, corundum and kyanite may be found. The investigation of pegmatites is, therefore, of importance in the economic field. In the academic field the investigation has also had repercussions. It is often possible to determine the age (in millions of years) of some pegmatites by examination of their radioactive minerals. Samples of minerals from some of our pegmatites have been submitted to research workers in the United States for such radioactive age determinations. The results of these determinations should prove extremely useful in some of the problems of correlation of rock formation in Tanganyika and East Africa as a whole.

The question of correlation by direct geological methods was also considered in detail during the year. In the course of economic mapping it is essential to know firstly with what particular rock formation the economic mineral is associated, and secondly the extent of that rock formation. In practice this is often extremely difficult, and a review of the criteria for correlating some rock formations in the Territory with certain others has

shown that some of the correlations made previously are probably incorrect. The difficulties faced in this type of work can be appreciated when it is realised that in spite of nearly a century's geological mapping in the Scottish Highlands, complete correlation between the rock formations there is still a matter for dispute. In Tanganyika, where larger areas and more formations are encountered than in Scotland, it is a great credit to the pioneer geologists of the Territory that any sort of order has been achieved out of the complications of Tanganyika's geology. That recent work has cast some doubts on that correlation is no reflection upon their work, but rather a revelation of what they achieved under the conditions then prevailing. The whole question, however, is so complex that a review of the recent discoveries would here be out of place.

In addition to the correlation of rock formations, a great deal of information is accumulating concerning the individual rock systems. Thus the nature of the Nyanzian System, in which Geita and other gold mines occur, is being thoroughly investigated with some hitherto unsuspected results. Similarly the flat-lying sedimentary rocks of western Tanganyika known as the Bukoban system, which were originally thought to have been deposited on a flat land surface, have been shown in three different areas to have been laid down on a surface that was very far from flat, a matter that might reopen the question of buried minerals. The first Tanganyika occurrence of true nappe structures (a structure common in the Alps of Europe and fairly characteristic of mountains produced by intense compression of the Earth's crust) were noted in the south-west of the Territory in rocks which have not yet been correlated. The highly metamorphosed rocks of the Basement System have been studied in detail in the Kilosa, Mpwapwa, Ifakara and North Pare areas with the result that several interesting structures and rock types have been discovered, all of which represents a considerable contribution to our knowledge of this, the most important rock system in Tanganyika.

Geochemical researches of several types were conducted during the year. The first concerned the location of possible copper occurrences, in which a number of soil samples containing traces of the metal were analysed and plotted on maps. The titanium content of certain iron occurrences was determined, and it is possible that this type of determination may have a bearing upon the genesis of iron ores in general. Useful work was also carried out in "biogeochemistry" in which traces of economic metals were determined in twigs from trees over known ore bodies. This was in order to determine whether the concentration of the elements in the trees reflected the sub-surface conditions; this type of prospecting has achieved considerable success in other parts of the world. Spectroscopic determinations of elements such as cobalt, manganese, nickel and platinum were carried out on various rocks submitted to the Laboratory.

In an investigation of the coatings or deposits which sometimes obscure and obliterate rock paintings in the Central Province, methods were developed for distinguishing between deposits which originated as a result of the normal weathering of rocks or of the activities of animals or by a combination of both causes.

During the course of the year several unusual rocks and minerals came to the notice of the Department. Thus several minerals have been discovered for the first time—so far as is known—in Tanganyika. These include examples, for which the arid areas of the Territory are favourable, such as the water soluble Pickeringite which has been found in several places and Gaylussite which occurs among the salt deposits of Lakes Natron and Balangida. Two phosphate minerals which appear to be new to science have been discovered in the Songwe River area of the Rukwa Trough. Detailed examinations were also made of minerals such as epidote kyanite, sillimanite, hypersthene, diopside, corundum, graphite and others, which are of significance in the interpretation of the history of the metamorphic rocks of the Territory. Two varieties of epidote new to Tanganyika were also noted: these were thulite, a manganese zoisite, from the Southern Province and a chromiferous epidote akin to tawmawite, from the Northern Province.

In addition to the minerals identified, several uncommon and unusual rock types were noted. Among these were an important occurrence of eclogite, one of the densest silicate rocks known, and also a suite of unusual carbonate rocks from south-west Tanganyika in which calcium carbonate was demonstrated to be replacing gneisses of the Basement System. The petrognesis of several other rare rocks from different parts of the Territory were also deduced from field information and detailed Laboratory investigation.

One notable event of the year was the Vth Session of the Interterritorial Geological Conference for East Africa, held in Dodoma in April. During the course of the Conference a wide range of subjects was discussed, and views were exchanged with delegates from Uganda, Kenya, Northern Rhodesia, Southern Rhodesia and Sudan.

ARCHAEOLOGICAL.

During the year Dr. L. S. B. Leakey continued his excavations at the Olduvai Gorge. These excavations resulted in the uncovering of a place where early Chellean man had from time to time over a long period driven contemporary animals of various kinds into a muddy swamp by the old lake shore. Having got the animals bogged he proceeded to kill them and cut them up on the spot.

The astounding discovery was that of numerous remains of a giant extinct sheep—*Pelorovis*—(already known from Olduvai before but only from rather fragmentary material). Two complete skulls were found and in addition a large number of other horn cores, some with the skull complete and others broken off. This material will make it possible for the first time to sort out the difference between *Pelorovis* and *Bularchus* on a scientific basis.

In addition, remains were also found—but in a more fragmentary condition—of three or four different species of extinct giant pigs, several different species of extinct squids as well as remains of extinct hippopotamus etc. Associated with these fossils were a number of stone tools as well as hundreds of flakes knocked off in the process of sharpening these tools.

SOCIOLOGICAL.

The three sociologists employed by Government have been occupied during the year as follows:—

(a) Mr. H. A. Fosbrooke, Senior Sociologist, prior to his departure on leave and a visit to the United States of America on a Fulbright travel grant, continued his study of the sociological aspects of land usage in the heavily populated highland areas of northern Tanganyika, with particular reference to the deterrents which have hitherto operated against migration to and settlement in the adjacent plains.

(b) Following upon his study of the Sukuma tribe and the recording of the results in his book "Sukuma Law and Custom", which is in process of publication in both English and Swahili versions, Mr. H. Cory carried out an investigation of the law and custom of the Nyamwezi tribe in the Western Province. This work was completed in October, 1952, and Mr. Cory is now extending his original enquiries to cover the political institutions of the three districts concerned.

(c) Mr. W. Whiteley, prior to his departure to take up a Senior Research Fellowship at Makerere College early in 1952, completed his study of the Makua tribe in the Southern Province, and arrangements for publishing the results are proceeding. Dr. P. H. Gulliver, his successor, arrived in the territory in October, 1952, and is undertaking a general investigation of the life and culture of the Ngoni tribe in the Southern Province before commencing a study of labour mobility, one of the projects proposed by Dr. W. E. H. Stanner after visiting Tanganyika in 1948 to assess the sociological research needs of the Territory.

An Administrative Officer, Mr. A. C. A. Wright, was seconded to the Sukumaland Development Team as a sociological research worker, and after completing investigations and submitting papers on Land Tenure, Cattle Holding and Animal Husbandry in Central Busukuma and on the Sukuma House and Homestead, undertook a survey of the structure of the Sukuma clan organisation.

In addition to the Government sociologists, the following have been working in Tanganyika:—

(1) Mr. D. F. Pocock, who was awarded a post-graduate studentship by H.M. Treasury Committee for Studentships in Foreign Languages and Cultures, completed a study of the economic and social situation of the Indian communities in East Africa, with special reference to their relationship with the indigenous African population.

(2) Under the American Fulbright Agreement, Mr. I. Kaplan commenced a concentrated study of the law and custom of the Chagga tribe in the Northern Province.

(3) The three sociologists attached to the East African Institute for Social Research continued their studies—Mr. J. Tyler amongst the Zinza

on the southern shores of Lake Victoria; Mr. and Mrs. J. Scherer amongst the Ha in the Kasulu district of the Western Province; and Mrs. Reining amongst the Haya tribe in the Bukoba district of the Lake Province.

The proposed Sociological Survey of Dar es Salaam, on which preliminary work was carried out by Mr. and Mrs. Sofer, was, unfortunately, abandoned as the necessary funds were not available.

Miss M. L. Bates, an American Fulbright scholar, undertook a study of the political development of Tanganyika and the implications of that development in relation to Tanganyika's position first as a mandated territory and later as a trust territory.

METEOROLOGICAL.

During the first four months of 1952, the Overseas Food Corporation at Kongwa, working in conjunction with the East Africa Meteorological Department, conducted experiments which attempted to stimulate rainfall from cloud. As is generally known, before rain will fall it is essential that relatively large water drops or ice crystals should form in the cloud. Small water droplets, of which cloud is mainly composed, are more easily kept in suspension by the air; moreover such drops readily evaporate if they fall into clear air. Rain is commonly produced in the upper parts of cloud where the temperature is below freezing point. In this region of the cloud, if both water drops and ice crystals are present, the water evaporates from the drops only to re-form as ice on the crystals, which grow until they fall under the force of gravity. In most cases, of course, the ice melts to form water before reaching the ground.

In 1951 an attempt to assist or promote the formation of ice crystals in cloud at 18,000 or 19,000 feet was made by scattering silver iodide from aircraft or by exploding this chemical from containers attached to hydrogen-filled balloons released from the ground. This technique was again used in 1952 without any apparent success. However, the 1952 experiments included the additional technique of attempting to promote the formation of larger water drops within the lower parts of the cloud. For this purpose it was necessary to scatter into the cloud a finely ground substance which has a marked attraction for water. The chemical chosen was a mixture of 90 per cent sea salt and 10 per cent calcium chloride, the mixture being again exploded from small canisters attached to balloons which ascended to about 5,000 ft. before the scattering took place. An analysis of the total rainfall during days when this method was employed, as compared with the rainfall during days of no attempted rain stimulation, indicated that the sea salt mixture did have the eventual effect of assisting rain formation. Both the silver iodide seeding and the sea salt scattering had the apparent effect of prohibiting rainfall over the area of release, but when the salt mixture was used there was a noticeable increase in rainfall over an area about 12 miles away downwind. This indicated that there was a time lag of between 30 and 60 minutes before any effect was produced.

It was remarked on a number of occasions that the introduction of the sea salt mixture into smaller cloud resulted in the dispersal of the cloud. In such cases it was probable that the small droplets of the cloud were made to combine into larger drops by the salt and evaporated during their fall to earth.

The general conclusions drawn from these experiments were that the introduction of 'seeding agents' into cloud upset the natural processes of rain formation, that silver iodide tended to prohibit rainfall but that the sea salt mixture stimulated rainfall although the effect was delayed.

ZOOLOGICAL.

The most noteworthy event has been the long-awaited publication, albeit of only the first part, of "Birds of Eastern and North-eastern Africa", by Messrs. Macworth-Praed and Grant. While the book has disappointed some people and received some adverse criticism, the most serious being the lack of an index of the common names, it fills a very long-felt need. Those ornithologists who started work on Tanganyika birds after the first World War would have given much to have had so comprehensive a reference book to hand. There is still much to be learned about the biology of many East African birds and the numerous entries of "unrecorded", "undescribed" should be but a guide and a spur to present field workers.

Mr. T. Anderson has rediscovered another bird in the Morogoro District, the Black-cap Bush Shrike (*Malaconotus alius*), found by Friedmann in the Uluguru Mountains in 1927. Mr. N. R. Fuggles-Couchman has established the occurrence of the southern and highland form of the Fiscal Shrike (*Lanius collaris marwitzii*) in the Eastern Province, in the Ukaguru Mountains of Kilosa. The distribution of this form is particularly interesting as it appears to occur only above 5500′, and in the Iringa Highlands below that altitude, in *miombo*, the form *Lanius collaris humeralis* occurs. Fiscal Shrikes, both of the latter form, have been recorded only twice before in the Eastern Province, both sight records.

Considerable study has been given to the serious irruption of the grain eating Sudan Dioch (*Quelea quelea aethiopica*). The control of the enormous flocks of this bird, which destroyed thousands of acres of grain in Tanganyika in 1952, presents many problems, but trials of blasting nesting colonies and spraying dense roosts have shown some success.

YOUNG PIONEERS IN TANGANYIKA.

By the Rev. Cedric N. Frank, M.A.

Priest of the Universities' Mission to Central Africa and Rector of Dar es Salaam.

Over eighty years ago two English boys still in their teens journeyed together with two African youths from Zanzibar to the Usambaras, and thus earned a unique and honoured place in that select band of pioneers who paved the way for Christian civilization in this Territory. They were Samuel Speare and Benjamin Hartley, and both of them were members of the Universities' Mission to Central Africa, a missionary society of the Church of England founded on an appeal made by Dr. Livingstone in 1858.

In 1866 Bishop Tozer, as second head of the Mission, returned to England principally to try to find more men and money for the work now based on Zanzibar Island. He brought with him four young Africans who had been rescued from slave-traders and handed over to the care of the Mission. One of these boys, named Francis Mabruki, lived for a year with the Vicar of Rickinghall in Sussex, where he formed a fast friendship with one of the village lads called Samuel Speare. A brief life of Speare was written shortly after his death, but the writer of this article has failed to find a copy of it and has therefore had to fall back for his facts on an early history of the U.M.C.A. and on "Blue Books" and "Occasional Papers" published by the Mission. Speare was born at Rickinghall on 15th January, 1853 in a poor but godly home; by the age of thirteen he was helping to support his family during the illness of his father. The parish had always taken a keen interest in Missions and his Vicar eventually went out himself as a missionary to Zululand. In spite of his poverty, the lad always brought a few coppers each week for the work of the Universities' Mission. His friendship with Francis Mabruki convinced him that he had a vocation to be a missionary himself, although both his African and English friends warned him of the risks involved at a time when death was taking a very heavy toll of the first missionaries in East Africa. He had earned such a high reputation in the village, however, that Bishop Tozer decided to accept this poor, half-educated boy as the first "Mission Pupil" and sent him for a time for preliminary training to the choir school at St. Andrew's Church, Wells Street, London.

In April, 1868, Speare set out on his great adventure accompanied by the Bishop, the four African lads, and two priests, the Revs. R. L. Pennell and L. Frazer. A small party of friends saw them off from England on the steamer to Hamburg, where they joined the *Nubia,* described as "one of Messrs. O'Swald's ships." It took them exactly three months to reach Zanzibar.

He was soon busy in the Mission School acting as pupil teacher under Pennell and instructing African boys and girls who had all been rescued from slave-traders. But he also found time to continue his own studies, including Greek, Latin and theology. Throughout his five years in Africa, he wrote happily home about his work, in spite of the fact that cholera killed a large number of his African and European friends, a cyclone (1872) destroyed many of the Mission buildings at Zanzibar, and the dearth of

workers, caused by death and disease, meant constant alterations in plans for evangelizing the mainland. The Bishop wrote in glowing terms of his progress, while he himself sent home stirring appeals to others to follow him to Africa, asking "if people's hearts are made of stone that they don't care to come out to preach the Gospel."

In 1869 the Bishop made him a sub-deacon and sent him with a party to re-establish the mission station at Magila in the Usambaras, about forty miles from the Coast. In 1848 the great C.M.S. missionary, Dr. Krapf, had passed through Magila and had cut out a large cross on the bark of a tree to "take possession of the country for Christ," an incident commemorated in the fact that today the Mission there is called Msalabani (the place of the Cross) and the Church is dedicated to the Holy Cross.

In 1867 Bishop Tozer sent the Rev. C. A. Alington and a convert named Vincent Mkono to interview Vuga Kimweri who was an independent sovereign although a tributary of the Sultan of Zanzibar.* After some differences of opinion Kimweri agreed to allow the Mission to settle if the Sultan approved. Alington returned to Zanzibar for this approval, but, when he came back to Kimweri, the king refused to have white men in his capital and told him to start work at Magila. Alington had to go back to England and the work was abandoned for a time, but in 1869 a fresh effort was made and Speare accompanied the Revs. S. Davis and L. Frazer to Magila. They sailed in a dhow from Zanzibar and had a good run to Kogotoni. "We laid our cork mats on the small deck and fell asleep," wrote one of them, "until I was roused by a rat running under my coat." A large crowd met the party at Morongo, some with a welcome, others out of mere curiosity. There was more than the usual business and delay in obtaining bearers, for they were taking materials for a house and the men grumbled about the burdens! They spent the night at Umba, where their sleep was disturbed by the unceasing noise of drumming and shouting, intended to "frighten away the evil spirit" after the death of one of the villagers. Their arrival at Magila was greeted with "screams of very wonder," for the people had never before seen "such strange things as corrugated iron." The old Mission hut was found to be fast tumbling to pieces owing to the weather and white ants, but the two Englishmen and the lad quickly marked out "the spot for the new house on Tuesday and by Saturday it was nearly completed." The floor was laid with large granite slabs covered with pieces of tarred felt. A portion of the house was set apart for a chapel and a wooden cross was placed over one end. In spite of the unsettled state of the country caused by marauding bands of Zigua, Masai and Arab slave-traders, the work of the Mission began to take root. Candidates for instruction in the Christian Faith were just beginning to come forward when the fact that only one priest and one deacon remained alive on his staff caused the Bishop to close the Station again and to recall the little band to Zanzibar where Frazer died from cholera. Next year another attempt was made on Magila by the Revs. S. O. Handcock and R. L. Penell, but both returned sick within a month and died shortly afterwards.

In 1870 Speare was joined by another youth who had come out under the Mission Pupil Scheme, a young schoolmaster called Benjamin Hartley.

* An "Ally" would perhaps express the relationship better: Kimweri and Said exercised a sort of condominium over the coastal area to the east of Usambara. See Coupland's "East Africa and its Invaders," pp. 350-1.—Ed.

Two years later, in 1872, Bishop Tozer, broken in health, sailed for the Seychelles, leaving in charge of the Mission the great Dr. Edward Steere, who was later to succeed him as Bishop. One day, Dr. Steere's old interpreter, Munyi Khatibu, crossed to Zanzibar from the mainland and asked him when the Mission was going to re-occupy Magila. He said that the wars in the Shambala country were at an end and that the Mission house at Magila was still intact. The population round Magila had been increased and the people were begging the white men to return. There was no one available at the time except four young sub-deacons, Speare and Hartley, and two Africans, Francis Mabruki and John Swedi. In the Mission chapel at Zanzibar they received their orders from Dr. Steere, whose message, in the nobility of its language and appeal, should be read by all who wish to serve as Christian missionaries. (It is quoted in the author's "Bishop Steere; a Christian Interpreter in East Africa," published by the East African Literature Bureau.) Of their departure the Bishop's sister wrote: "It really is touching to hear of four boys, two white and two black, all under 22 years of age, holding up the Cross alone against heathendom in that desolate place."

Immediately on arrival the four youths put up three houses as quickly as possible. "The wood is brought down from the mountains", wrote Speare to his friends in England. "We had some difficulty in getting the people to build a house after the fashion of Zanzibar; they wanted to put us up with a small round hut large enough just to put a few fowls in, but, after setting them a-going, I think they will manage fairly well." The countryside was still disturbed. "We hear of wars," he said, "though they do not touch us here. By Friday nearly all of the men of the neighbouring villages had left and soon we were expecting to hear that the war had begun, but we were told that the Mgonezi had not arrived. He is the man who sends all to war who will not be killed and keeps back those who will die! He also foretells whether they will conquer or not. May God give us peace in our time: under His protection we ought not to have any fears."

He had a clear vision of his task. "I daresay," he said, "that it will be a long time before we make any impression on these poor heathen, but, if we try and do all we can, doing our duty faithfully, both by preaching the Word and by setting an example of pure and holy lives, I have no doubt that God in His own good time will bless our work. These people look upon God as the cause of all our sin and suffering sickness and disease and not as a loving Father and merciful Creator. They fear man more than God and put their trust in charms and witchcraft."

Speare went back to Zanzibar for a few weeks, but returned to Magila for Easter 1873, when he found that the Wadigo and Wabondei (he calls them Waboonde) were at war again, "a real war" this time. He wrote. "The Wadigo penetrated their enemies' country and surprised the people as they were busy in their fields; they began plundering and burning their towns, driving the inhabitants further west. We soon heard the tap-tap of the war drums and saw both women and children with their belongings on their heads leaving their homes, while the men prepared themselves for battle and ran off just anyhow. We could see the smoke rising up above the mountains and it seemed to be only three or four miles from us.

Of course we mustered and said prayers. About four o'clock in the afternoon we heard guns going off pretty near us, which turned out to be the Waboonde returning victorious. They utterly routed their enemies and scattered them in all directions."

In July the Rev. L. Midgeley, newly-arrived from England, was sent to take charge of Magila, and Speare, after five years' absence from home, was sent to England for a change of air and also to study in earnest for ordination. He arrived home in good health and, after spending some weeks at his old home in Suffolk, settled down to his studies at Burgh-le-Marsh, Bishop Tozer's old parish in Lincolnshire. A sudden cold turned to congestion of the lungs and he died on November 13th, 1873 at the age of 20.

His friend, Benjamin Hartley, followed him to the grave only a few weeks later. He had spent Christmas at Zanzibar and was on his way back to Magila when, near Morongo, he came into conflict with some Arabs on their way from Kilwa with a caravan of slaves. Whatever may have been the origin of the fray, the result was that, after several shots had been fired on either side, Hartley fell wounded. The people on the spot placed him in a dhow and he was brought to Zanzibar in a "frightful state." At first it appeared as if he would recover in spite of his many wounds, but lockjaw supervened and he died on February 15th, 1874.

Of their two African companions, Francis Mabruki fell away from grace and died at Mombasa in 1908, but John Swedi lived to see the work he had helped to begin grow and spread throughout Tanga Province. He was one of the five slave boys handed by the Sultan to Bishop Tozer on his arrival at Zanzibar and was among the first nine Africans to be baptized by the Mission. First to be made deacon in 1879, he was able to celebrate the fiftieth anniversary of his ordination in 1929 and only died nine years ago at an age somewhere in the region of a hundred.

HOW THE SWAHILI PEOPLE AND LANGUAGE CAME INTO EXISTENCE.

By Dr. R. Reusch.

Both the Swahili people and language were fully developed historical phenomena already during the last two centuries of the Zeng Empire. The origin of the nation is, however, much older. It goes back to the time of the first Arabian settlements on the coast of East Africa, when the first intermarriages between Arabs and natives occurred. At the same time the Swahili language began to appear. But there were only a few scattered small groups of this Arabo-African mixture of blood and language. As a nation the Swahili appeared later, after the earliest Bantu tribes had invaded Central and East Africa, and had settled on its coastal plains. There, within the well-protected boundaries of the Zeng Empire, a mixing of the Perso-Arabian and Bantu elements began on a large scale. The formerly scattered groups became the coastal population and their language became not only the generally used coastal dialect but the commercial language of the coast and adjoining islands.

There are two trends of thought concerning the origin of this nation and language at the universities and schools of oriental languages in Europe as well as among the missionaries and colonial officials in East Africa. Both trends are also represented in the traditions of the coastal population. Among the linguists I would like to mention Dr. C. Meinholf (Hamburg University), among the missionaries Dr. C. Röhl, as the representatives of one trend of thought.

They believe that during the Shirazi time there existed on the coast between Kilwa and Bagamoyo a Swahili tribe, the ancestors of the present Wazaramo. Its members, being born merchants, developed rapidly into a merchant caste. Their language was a pure Bantu language. Since it was very suitable for trading with the majority of the Bantu tribes it began to spread and to be used by the other tribes. Because the Waswahili traded for centuries in Arabian, Persian, Malayan, Indian and Portuguese articles of merchandise, the foreign names of these articles crept into their language, were Bantuized and absorbed as part of it. The nation itself developed from the old Bantu tribe of the Wa-Shomvi, which was living between Bagamoyo and Kilwa, belonged to the first wave of the Bantu invasion, mixed with other coastal tribes and survives until to-day as the Wazaramo. They believe that these Wa-Shomvi were the original Waswahili.[1)]

This theory could be supported by the fact that the Masai, call the Swahili language *"Enguduk ol-Ashumba"*, which could mean "the language of the *Wa-Shomvi*". Since the Masai pronounce the *V* often as a *B*, *Shomvi* would be pronounced by them as *Shombi;* the *Ol* is the Masai article (the English "the") and the *A* designates the plural. They call the Wa-Arusha to-day *Ol-Arusai.* Hence *Wa-Shombi* could be pronounced by them *Ol-Ashombi, Ol-Ashumbi* or *Ol-Ashumba.* This fact was, however, not known to the representatives of this theory for they did not know the Masai language. When I drew the attention of Dr. Röhl to this fact, he readily

1) R. Reusch, "Der Islam in Ost-Afrika", 1931, pp. 298-299.

accepted it as support for his theory. But the Masai, who used to ransack the coastal settlements, might as well have used this name as a *pars pro toto,* i.e. they just called this language after the coastal tribe with which they came into closest contact, maybe because of their constant trade with it.

The second theory, represented by the late Bishop E. Steere of Zanzibar, Mr. Taylor of Mombasa, F. Johnson and others, is this: The Swahili nation did not originate from one particular tribe, but is a mixture of Arabs with different coastal Bantu tribes, who became islamized. As Muhammedans they became estranged from the other (pagan) tribes and associated with their co-religionists, the Arabs and Persians. Into their Bantu languages they introduced, during the centuries in which they were living together, Arabic, Persian and Indian words. Thus appeared a very elastic language, called Kiswahili, i.e. the language of the coast. Highly suitable for trading purposes, it gradually became the *lingua franca* of East Africa. But not one of these linguists has ever developed this theory fully.

Personally I feel that the second theory is more correct. The reasons are the following: First, when the first Bantu tribes invaded East Africa around 600 A.D. and settled on the coast, they found in Somaliland some Hamitic and on the coast of Tanganyika, Kenya and Mozambique some Bushmen tribes. They either absorbed or drove away the Bushmen and mixed to a certain extent with the Hamites. Shortly after 700 A.D. came the first Arabian Vikings and founded their states along the coast.

In 975 arrived Prince Ali ibn Hasan from South Persia and founded the Zeng Empire. Under the domination and influence of their Perso-Arabian masters many coastal Bantu tribes became islamized. Due to the shortage of Arabian and Persian wives the conquerors married Bantu women in great numbers. In this way a mixed coastal population appeared. Since it did not belong to a certain tribe, it was called the population of the coast, i.e. Waswahili. The Arabic word *Sahil,* plural *Swahil.* means *coast.* The *Wa* indicates the plural. Hence *Waswahili* means the coastal people.

Secondly, since the Arabs and Persians were mainly warriors, sailors, merchants, traders or artisans, but the Bantu mothers came from agricultural or nomadic tribes, their children learned from their fathers the Arabic or Persian words pertaining to war, navigation, merchandise, journeys, artisan tools, products and articles of culture. From their Bantu mothers they learned the Bantu words concerning agriculture, animal husbandry, food, drink and every-day life.

Thus grew up organically a new language, a mixture of Arabic and some Persian with different Bantu dialects. According to my estimation about two-fifths of the Swahili words are of Perso-Arabian and three-fifths of Bantu origin. This new coastal language became known as Ki-Swahili (Ki indicating the language). Later on Indian, Portuguese and other European words were added, absorbed and Bantu-ized. The grammatical structure of it is a mixture of the complicated and somewhat irregular Bantu with the logical and well developed Arabic. This makes the Swahili gram-

mar comparatively easy to learn. Kiswahili is a rich and very elastic language.

Summing up we can say: Kiswahili is an organically developed language of the coastal population, a mixture of Perso-Arabian fathers with Bantu mothers . It adapted itself in a marvellous way to the every-day life of the civilized Perso-Arabs and of the savage Bantu tribes, and became the language of trade in East Africa. Gradually, due to its richness and elasticity, it developed into a *lingua franca* of the East African countries and is rapidly spreading over Central Africa. It is now spoken by about 44,000,000 people and is the seventh greatest language in the world. It is used as the official language in Italian Somaliland, Kenya, Uganda, Tanganyika, Mozambique and Ituri (Eastern Congo). One meets Swahili-speaking people from Jibuti and Aden down to Natal. It is the language of education in all East African countries and has a comparatively rich and rapidly growing literature.

Where did it originate? F. Johnson[1] and B. Krumm are of the opinion that the Swahili people and language originated around Lamu. F. Johnson writes: "The Arabian immigrants of Lamu married Bantu women. Already they themselves adopted a number of Bantu words, forced to do this by their every-day life with their wives and by their trade with the natives. Their wives, on the other hand, learned from them a number of Arabic words. Their children, half-Arabs and half-Bantu, learned from their mothers Ki-Bantu and from their fathers Arabic, mixing both languages in the same way as their blood was mixed. With every new generation this process continued, until finally the present Kiswahili has grown up as a new language. Being a living and highly adaptable language, it quickly spread over the East African coast" (translated from Kiswahili).

He is right in picturing the origin and growth of Kiswahili, but has failed to mention as a reason for its rapid growth the fact that it is rich, very elastic and has a comparatively simple grammar in comparison with the complicated Bantu grammars. Professor I. Goldziher[2] has similar ideas, stating that "the nations of the oriental countries are very quick to borrow words from other languages and even whole sentences, to change them into forms of their own language and to add them to their dictionary". This statement of a famous orientalist endorses F. Johnson's views.

But F. Johnson, B. Krumm and others are not right in assuming that Kiswahili originated around Lamu. B. Krumm[3] writes: "The Swahili language originated in and around Lamu, i.e. on the Lamu archipelago, for the first foreign settlement of traders, adventurers, fugitives or conquerors from the Persian Gulf and South Arabia, who came to the East African coast, was established there"... "The immigrants came from countries with different languages. Due to their intermarriage with the natives these foreigners adopted the language of their new homeland, enriching it with

1) F. Johnson, "Zamani mpaka siku hizi", London, 1930, p. 24.

2) I. Goldziher, "Beiträge zur Volksetymologie" in "Zeitschrift für Völkerpsychologie und Sprachwissenschaft", 1888, pp. 69-82.

3) B. Krumm, "Wörter und Wortformen orientalischen Ursprungs im Suaheli", 1932, p. 19.

many words and sentences from their own languages concerning trade, navigation, tools and clothing. Polygamy and slavery helped to produce a large mixed population, which gradually lost the feeling of what was genuine African and what was foreign in their language; this was easily possible, for all foreign words were Bantu-ized to such an extent that they did not look any more like foreign words."

The reasons brought forth by Johnson and Krumm concerning the origin, development and spreading of Kiswahili are clear, substantial and convincing. But their statement that the Lamu archipelago was the cradle of Kiswahili is not correct. Lamu was by no means the oldest Arabian settlement in East Africa. There existed much older ones, especially along the Somali coast. If one agrees with Storbeck, Hollingsworth and others that the ancient town of Opone is identical with Hafun—and nothing can be said against it—then we have in Opone-Hafun in Italian Somaliland an Arabian settlement which is many centuries older than Lamu.

From the "Periplus" we know that already in those days (60 B.C.) "the Mapharitic King ruled over this (northern part of East African) coast on the basis of an ancient right". Now this king was a South Arabian sovereign. Thus the "Periplus" shows that at the beginning of our era Arabian settlements must have existed everywhere on the coast, even on that of Tanganyika. And he states that the Arabs, who settled there, freely mixed with the natives through intermarriage.

The natives, whom they met there, were not Bantu tribes but Hamites. However the Bantu began to invade East Africa and to settle on its coast only a few centuries later. The general opinion is that the oldest Bantu tribes were those which settled in Rhodesia, Natal and Mozambique. They must have been Zulus or tribes related to them. Shortly afterwards the Wanyamwezi, Wayao, Wa-Amuli etc. came to Tanganyika. The oldest Arabian geographers (for example, Masudi) distinguish between the Zeng (Bantu) and the Berbera and Hafuni (Hamites). According to them the Zeng-Bantu were living to the south of the equator, the Berbera and Hafuni to the North. This corresponds with their present distribution over the eastern part of Africa.

Already in the days of the "Periplus" and even earlier there must have existed a mixed Arabo-African language, the precursor of the present Kiswahili, used by the mixed population of the scattered Arabian settlements along the coast. They were small and there were only comparatively few of them. Their population was Arabo-Hamitic and so was their language.

Later, from the time of Muhammed on, the first large Bantu tribes arrived from the interior and settled on the coast. At the same time larger numbers of Arabian immigrants began to settle permanently on the coast and islands, establishing their own states. They intermarried freely with the Bantu population. In the states of Sulaiman and Said, of the Seven Brethren of El-Hasa, of the Ammu Zaid, and especially in the great Zeng Empire, intermarriage was practised on a large scale due to the shortage of Arabian women, polygamy and slavery. As a result, a large mixed

mainly Arabo-Bantu population appeared in and around every town and commercial centre.

These principalities were permanent states. For generations the mixed population increased, until it became the majority of the inhabitants. Being Muhammedans like their fathers, these half-Arabs and half-Bantu, called Waswahili, gradually became a powerful factor in the life of the Zeng Empire, and their language became the language of the state, used in all commercial enterprises with the inland tribes as far as the Great Lakes. And from the inland tribes this mixed population received its name Wa-Swahili (—coastal people), and the language became known as Ki-Swahili or the coastal language. Arabian geographers and travellers write about this mixed population, produced by intermarriage between the Arabs and Bantu, and about its language.

During the earlier period of the Zeng Empire the migration of the large Bantu tribes came to a temporary standstill. They settled down and established their own states, some of them of a considerable size.

Dapper[1] reports about a great Bantu Kingdom, which he calls Monoemugi or Mohenemugi, the following: "This Kingdom of Monoemugi, called by others Nimeamaje, borders in the East on the Sultanates of Mombasa, Kilwa and Malindi, in the North on Abyssinia and the state of the Great Makoka, in the South it extends to Mozambique and the Kingdom of Monomotapa, and in the West it reaches two large lakes and the river Nile. It has a flourishing trade with Kilwa, Mombasa and Malindi". About one of these two large lakes he relates: "And it has very many islands", which would indicate that he means Lake Victoria. Then the other could only be Lake Tanganyika!

Professor H. Meyer[2] rightly assumes that this kingdom was the old Wanyamwezi-state, established by some energetic ruler who united all Nyamwezi chiefdoms into one realm and subdued some neighbouring tribes. Dapper's note that "it was divided from the coastal states by the territory of the hunting tribes" indicates that it could only have been a large Wanyamwezi state. Those "hunting tribes" were probably some Galla, Somali and Wataturu clans, the precursors of the Wamangati, Wandorobo, Wakwavi and the fierce Masai. This "great state of Monoemugi" was a Bantu state. Its name is just a corruption of Wanyamwezi or Unyamwezi.

All historical evidence indicates that the first small ethnographical and linguistic Swahili-speaking "islands" appeared simultaneously on the coast between Mogadishu and Mombasa. They were Mogadishu, Barawa, Merka, Lamu and Malindi, and appeared between 700 and 800 A.D., if not somewhat earlier. They remained as "islands" for a long time, because their Arabic population was not large.

The bulk of the Swahili people originated between Mombasa and Kilwa 200-300 years later, after the foundation of the Zeng Empire in 976-81 A.D. It increased rapidly in numbers, especially during the time

2) H. Meyer, "Das Deutsche Kolonialreich", Leipzig, 1909, pp. 275-276.

when this Empire reached the height of its might, and numerous Arabo-Persian immigrants constantly came to Kilwa. During this time some Swahili "islands" appeared also in Mozambique, especially around Sofala.

Ibn Batuta, who visited East Africa between 1330 and 1332/3, writes in his memoirs: "I boarded a ship in Makdishu with the intention to visit *the land of the Swahili people* and to see the city of Kulwa in the land of Zeng; and we arrived at the great island of Mombasa; and between Mombasa and the land of the Swahili people is a journey of two days by water."[1)]

This report states clearly that around 1330 there existed a Swahili land and people to the south of Mombasa, i.e. in Tanganyika, and that its centre was Kilwa. Ibn Batuta as an Oriental uses the oriental way of expressing his thoughts. An Oriental will often use "and" for "namely". If one asks a Caucasian about his pilgrimage, he will answer: "I am going to the land of Arabia *and* to Mecca". This means that he intends to go in the first place to Mecca, which is in the land of Arabia and is its centre. In Yemen a sheikh told me in 1930 that he wanted to go to the Sudan *and* to Omdurman to see the grave of the Mahdi Muhammed Ahmed. Yet he had no intention of seeing the Sudan, he wanted to visit only Omdurman and the grave of the Mahdi. Likewise Ibn Batuta wanted to say that he boarded a ship with the intention of visiting the land of the Swahili people and to see its centre, the great city of Kilwa.

This remark of Ibn Batuta shows clearly that the actual homeland of the Swahili people and language was the coast of Tanganyika with Kilwa as its centre. From here both spread in every direction.

The way both originated is doubtless that described by F. Johnson and Krumm. How the Swahili people and language spread one can see from the following: Along the Benadir (Somali) coast were a number of Swahili "islands", not particularly large. On the Kenya coast were two larger ones around Mombasa and Malindi, united by a narrow coastal Swahili strip. This Swahili block was numerically larger than the combined Swahili "islands" of the Somali coast. But the main part of the Swahili people originated and was living in the *Swahililand* of Ibn Batuta, i.e. along the coast of Tanganyika with Kilwa as its centre. Here they formed the bulk of the coastal population, and their language was the dominating language, the language of the crownlands of the Zeng Empire. On the Mozambique coast were again several Swahili "islands" around the cities, towns and settlements.

With the foundation of new settlements along the rivers and main caravan roads the Swahili population and language spread further and further. To the south they spread over Mikindani and Lindi into Mozambique, until a thin line of Swahili settlements reached Sofala and went even beyond it. In the northern direction a chain of Swahili settlements filled within a short time the gap between Pangani and Mombasa as well as between Malindi and Mogadishu. At the time of the Portuguese arrival the whole coast from Mogadishu to Sofala (roughly 2,000 miles) was a

1) Storbeck, "Berichte der arabischen Geographen des mittelalters über Ostafrika". Berlin, 1913, p. 35.

Swahili-speaking land. But only in Tanganyika they penetrated deeper into the mainland along the rivers and caravan roads. There it was used along the roads from Kilwa to Lake Nyasa, from Bagamoyo to Ujiji on Lake Tanganyika and from Pangani to Usambara. Far inland we find Swahili-Arabic towns like Kazeh (Tabora) or Mwanza on Lake Victoria or Morogoro and Dodoma in the Central Province.

Because Kiswahili is a mixture mainly of Arabic with the native languages and because these languages were different, the Kiswahili of Somaliland and Kenya differs from that of Tanganyika-Zanzibar. The latter is recognized as the classical form and is used by Government and in the schools as the richest and most elastic.

The basic Perso-Arabian elements were everywhere the same. but the native-African language elements were different. This produced not only a different spelling and pronunciation, but also different words for the same object. A few examples will show this: Land, country or soil is in Tanganyika-Zanzibar *nchi,* in Mombasa dialect *nti;* long legs is in Tanganyika *miguu mirefu,* in Mombasa *maguu marefu;* head is in Tanganyika *kichwa,* in Mombasa-Malindi *kitwa* etc. For Church is used, in Tanganyika, *kanisa,* in Mombasa *msikiti* (=mosque); for prophet, *nabii* or *mtume,* in Mombasa-Malindi *mbashiri, nabii* being reserved only for Muhammed; *ncha*=tip, point, end, is pronounced in Mombasa as *nta,* which means in Tanganyika beeswax. The Mogadishu Kiswahili differs still more. The Tanganyika Kiswahili seems to be the best-sounding.

To understand this we must remember some historical facts: The various ethnographical and linguistic "islands" of the Arabic-African mixtures of blood and language became the Swahili nation* mostly because of their common religion, Islam. They became a muhammedan nation, different from the other, pagan, tribes. Their common religion welded them together and influenced their common language. But the composition of people and language were different in the different countries. From Lamu to Mogadishu-Warsheikh and further to the north the Waswahili are a mixture of Syrians and Arabs with Hamites, Somalis and comparatively few Bantus. Therefore their language is a mixture of Arabic, Hamitic and Bantu elements with some admixture of Nilo-Hamitic and Syrian. In it we find many Syrian, Aramaic and even Hebrew words, due to the fact that the Wa-Shami (Syrians) once dominated this part of the coast for some time. They naturally influenced the emerging language to some extent. But the Arabic influence is there perhaps stronger than anywhere else in pronounciation and in the number of borrowed words.

In the Malindi-Mombasa section the Hamitic, Somali and Syrian influence disappears gradually; instead we find a stronger Bantu influence on one side and Mesopotamian-Arabic as well as some Persian on the other. Even Turkish, Indian and Beluchi words are found here; especially the Oman influence is noticeable.

In the main Tanganyika-Zanzibar section the predominant components are the Perso-Arabian on one side and the pure Bantu on the other. This

*Footnote: For the benefit of those unacquainted with the subject it should perhaps be stated that this conception of a "Swahili nation" is not accepted by many authorities.—Ed.

is the purest Kiswahili. For over 530 years the Perso-Arabian Washirazi dominated this part of Africa, and it is clearly noticeable in the language. There are many Persian words in it, but also a number of Portuguese, German, Indian and English words, which have enriched it with many modern terminologies.

It is wrongly called Zanzibar Kiswahili. It ought to be called Kilwa Kiswahili, because it originated in and around Kilwa, the capital of the once great Zeng Empire. It is more widely spread than any other dialect of this language and has the easiest, clearest and most exact pronounciation. The dialect of Malindi-Lamu is more archaic, that of Mogadishu more difficult because of its Hamitic elements. The Mozambique dialect resembles that of Tanganyika, except that it shows traces of Malayan influence from Madagascar and has more Portuguese words. This is due to the very long Portuguese domination (since 1500 until to-day).

Summarizing the above we can say: The Swahili people and language originated and developed around four centres. The oldest is on the Benadir coast around Mogadishu and Barawa, but the strongest was in Tanganyika, where Kilwa was its spiritual and political centre. Only here the Waswahili formed a nation, representing the bulk of the population of the Zeng Empire during the 12th-16th centuries. In Mombasa, Lamu, Malindi, Barawa and Mogadishu they formed only larger or smaller ethnographic and linguistic "islands." During the 14th and 15th centuries they were united by a thin strip along the coast. This process was completed during the 16th century.

In this way the Swahili people originated, united by a common religion, Islam, by a common language, Kiswahili, and by a common Perso-Arabian civilization. But all of these factors could not eliminate the African blood and the African character of the Waswahili and their language. Under the influence of the above mentioned factors was produced a new African people, more agile, more adaptable than the other tribes, with a greater gift of adjusting themselves to new conditions, but also with a number of weaknesses inherited from their Perso-Arabian forefathers.

HIDDEN DRUMS IN SINGIDA DISTRICT

By G. HUNTER.*

In the Singida District of the Central Province of Tanganyika there are numerous caves containing large drums. These caves are to be found in hills and hillocks situated in the tribal areas of Iambi, Isanzu and Iramba; all are of natural formation, although at several sites attempts have been made to conceal the entrance by erecting a dry stone wall. The drums themselves are more or less of one type; a hollowed tree trunk fitted with a single skin membrane held in position by a dozen or so crude pegs. Their state of preservation varies considerably. All show some signs of age, while a number of them have fallen apart with decay and time has rounded the edges of the individual pieces. With a very few exceptions the skin membranes have completely disappeared, and many of the pegs are missing. In addition to these "drum caves", there are a number of caves and rock-shelters in Isanzu containing weather-worn musical instruments and other articles. Who made these objects, and how they came to be in their present position is not known.

The first to mention the "drum caves" was Kohl-Larsen who, in 1935, discovered a cave in Isanzu containing fourteen drums, the largest measuring approximately 13 feet in length and 3 feet in diameter. He heard rumours of the existence of similar caves in both Iambi and Iramba and was informed that the local inhabitants were nervous of approaching them.

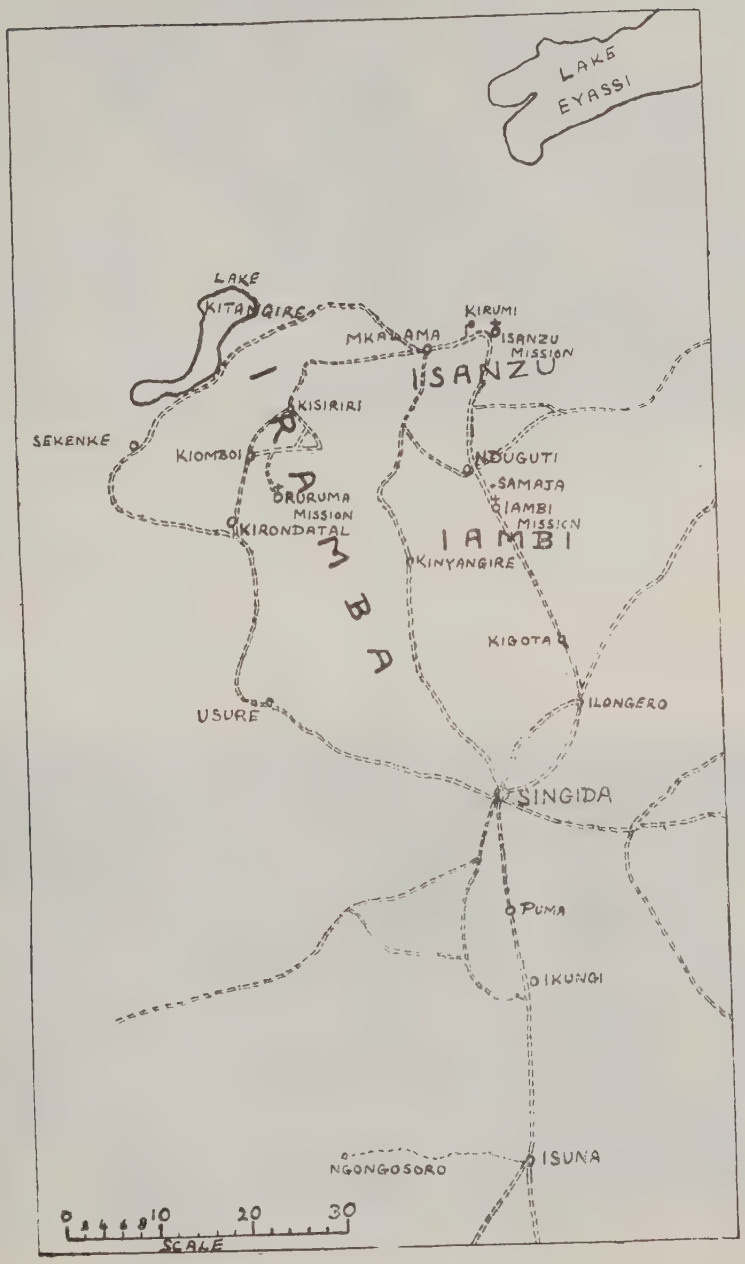
Iambi

Passing through the Singida District in 1950, I was taken to a cave at Samaja Hill which had recently been discovered by Dr. Rowberg and other members of the Iambi Mission. Eight drums were housed there, the largest being 6 feet 10 inches in length and 1 foot 5 inches in diameter and the smallest 4 feet 8 inches in length and 1 foot 3 inches in diameter. All the skins had rotted away. Before Dr. Rowberg had moved the drums for a photograph they had lain scattered about the floor. Flakes of granite placed across the cave entrance suggested that a dry wall had once been erected.

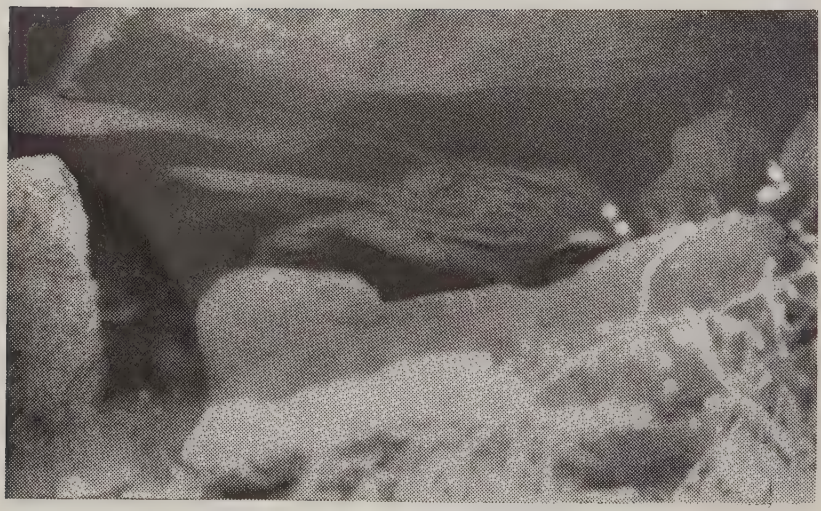
Although the local inhabitants were reluctant to impart information on the subject, Dr. Rowberg had managed to obtain reports of further caves at Samaja, and investigation now revealed three more containing one, six and nine drums respectively. The third cave was situated just below the summit of Samaja Hill and had no regular path of approach. Inside, and within a few feet of the entrance, the cave floor descended at a fairly steep angle, and the nine drums lay inside the entrance and on the slope in no particular order. They appeared to have been made from three different kinds of timber, but in this as well as in all other caves visited no sample of wood was taken from the drums for fear of offending the local people. One of the drums was constructed from a forked tree trunk and had an overall length of 7 feet 2 inches. Of particular interest was the fact

*Curator of the King George V Memorial Museum, Dar es Salaam.

THE "DRUM-CAVE" AREA



Drums in cave at summit of Samaja Hill, Iambi. (Specimen shown now in Museum).



Drum in cave, Samaja Hill, near Iambi.

that eight of the drums still retained part of their skins, five of which were almost complete.

It was not possible to go inside the other two caves as their entrances, obstructed by bushes and earth deposits, were only approximately 18 inches in height. Remains of a dry stone wall were also seen at the cave containing six drums. These were half buried in earth, but it was observed that one of the nearer ones had a diameter of over 2 feet.

The Chief of Iambi revealed the existence of caves at Kilili Hill, near Nduguti. Permission of the tribal elders and "keepers" was required for a visit, as the caves were used in the "rain-making" ritual. Having given their approval, the elders assembled at one of the caves and three aged keepers, bearing a wooden bowl containing a liquid "medicine", approached the entrance. They proceeded to wail for a short while in order to attract the attention of the guardian spirits and then called out that they had come in peace and merely wished to enter for a few moments. Thereupon they divested themselves of all their clothes and went inside, allowing their visitor to follow. The cave was found to contain seven drums in varying stages of disintegration. A similar ceremony was then observed before entering a second cave nearby in which there were nine drums in a bad state of decay, including a small one made from the forked trunk of a tree. Both caves were formed beneath fallen slabs of rock but were high enough inside to enable one to stand upright, and light penetrated through numerous crevices.

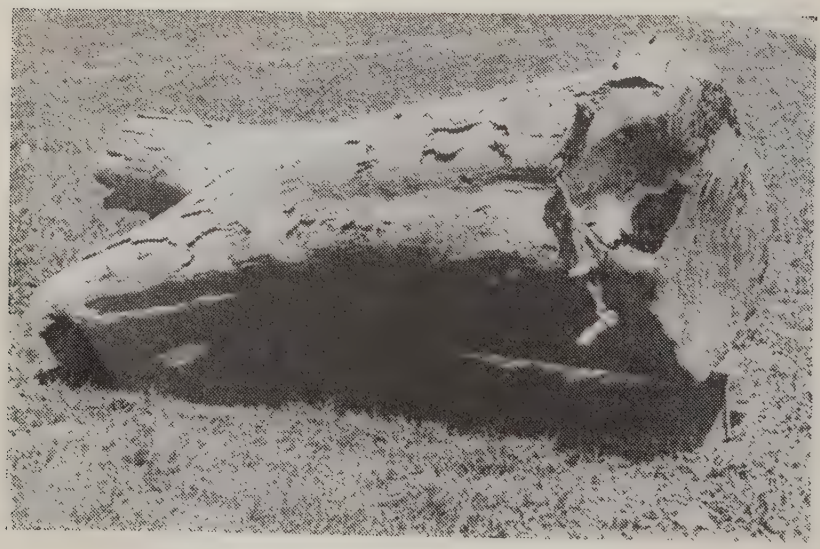
The Chief of Iambi, who is not allowed to enter these caves himself, was most interested in the account of their contents but could offer no suggestion as to how the drums came to be there.

Isanzu

Kirumi, in Isanzu, is the tribal headquarters of Chief Gunda, who proved extremely helpful and personally conducted a tour of the Isanzu caves. Five of them contained drums, most of these constructed from hollowed borassus palm trunks. Mwakadi Cave had seven drums, two of which retained minute scraps of skin. The largest measured 5 feet 10 inches in length and 2 feet 7 inches in diameter. In a cave at Mwaungu Hill nine rather short and broad drums were found, six of them made from palm trunks and the remainder from hard woods. All the skins were missing. A typical drum measured 4 feet 4 inches in length and 2 feet 3 inches in diameter. On the floor of a second cave at Mwaungu Hill lay small pieces of decayed fibre which, according to the Chief, were the remains of baskets left by the "drum cave people". One small piece picked up appeared to be part of twined basket made from a vegetable fibre. Near the summit of this hill was discovered the lower part of a grindstone similar to those still in use in Isanzu, and this too was said to have been left by these earlier people.

There were seven palm-trunk drums in Mulungi Hill cave, all devoid of skins and the largest measuring 6 feet 6 inches in length and 2 feet 5 inches in diameter; Kumidi Hill cave harboured the remains of two almost completely disintegrated drums.

Drum in cave, Samaja Hill, near Iambi.



Forked drum from the upper cave at Samaja Hill.

Drum cave, Isanzu (four drums inside), showing remains of dry wall made of granite.

Drums in cave, Isanzu.

At Kinyabambi Hill, situated about three miles from Isanzu Mission and near the old Isanzu-Nduguti road, there was a cave containing four drums which had been placed in a row, their heads raised on a massive stone block. This was the only site visited at which the drums were arranged in any order. They were alike in size and shape, one of them measuring 5 feet 6 inches in length with a diameter of 2 feet. A dry stone wall had formerly blocked the cave entrance and parts of this were still to be seen.

There were said to be other cave sites in this area, especially near Mkalama, but it was not possible to visit these at the time.

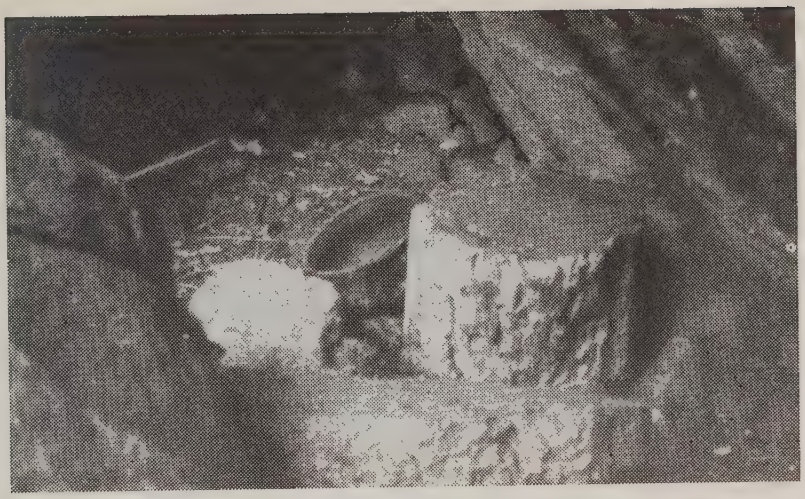
Isanzu tribal tradition maintains that the previous inhabitants of Isanzuland, the Wahenge, made the drums for use at special dances during which children and cattle were confined to their huts lest the noise of the drums should drive them insane. When invasions by raiding tribes began, the Wahenge concealed the drums in the caves where they still remained after the Wahenge themselves had disappeared. The Isanzu people say that, when their own ancestors first arrived and discovered the caves, they were very frightened and forbade their children to enter them. Even today adults will not willingly go into the caves.

At Kungudumu Rocks, not far from Kirumi, a circular wooden stool was found in a small rock-shelter; it was about 12 inches in diameter and made from a section of tree trunk.

A second rock-shelter near Kirumi was visited. Several paintings of animals decorated its sloping face and, at the base of the shelter, lay a small pile of wooden implements. The largest item was a pole, 5 feet 10 inches in length and $1\frac{1}{4}$ inches in diameter; a pear-shaped bulge at one end had been drilled with two $\frac{3}{4}$-inch diameter holes intersecting at the centre. The Chief and his elders were unable to explain the former use of this implement. There were also two large boards, 5 feet 8 inches in length and about 5 inches in width, with single peg-holes at each tapered end, and bearing carved geometrical designs. They appeared to be musical instruments and were probably single-string lutes which had originally had resonators attached to them, for there were a series of small holes drilled in an arc along the sides of the boards. Another object proved to be an adze handle, 1 foot 6 inches long and of a type still common throughout Tanganyika. The remaining implement was a rough stick, 14 inches long, one end of which had been cut to a "chisel" shape. Chief Gunda agreed that this had very likely been used as a hand-held digging tool and stated that all these objects had been made by the Wahenge.

Iramba

Enquiries on the Iramba Plateau revealed the existence of at least nine drum cave sites at the following hills: Aangu, Sungui, Konkoingombe, Milimu, Mwaalu, Tutu, Egange and Mtigazi and also at Kidaro; some sites are alleged to comprise more than one cave.



Old stool in the shelter at Isanzu, with sacrificial pot nearby.

Grindstone — associated with the drum cave peoples — on hill near Kirumu, Isanzu.

Aangu Hill was visited and the cave and its contents were found to be much the same as those of the sites in Iambi and Isanzu. There were remains of six drums, one of the largest measuring 6 feet 4 inches in length and 1 foot 5 inches in diameter. No sign of a concealing wall was visible.

After reading reports of these discoveries, Mr. Bicchieri of Kirondatal recently found a cave in the Mpanta area containing two large drums and parts of a third, the largest 8 feet long. This would appear to be one of the caves at Mtigazi Hill referred to above.

The Iramba tribal elders were ignorant of the origin of the drums, but one old man suggested that the Sukuma tribe had made them and added that each year certain Sukuma people were in the habit of making a pilgrimage to some of the caves. It was not possible to verify this at the time.

Unyaturu

Rev. Renner and Rev. Melander of the Lutheran Mission rendered invaluable assistance in collecting information on the whereabouts of the Iramba caves, and Rev. Renner also passed on the reports of one of the Mission's employees that there were two caves containing similar drums near his home village, Ngongosoro, about 20 miles west of Isuna and in Nyaturu tribal territory. The Iramba Chief's adjutant likewise spoke of a cave near Isuna in which there were the remains of ancient arrows. Some weight is added to these assertions by the discovery, in 1926, of a cave about 12 miles north-west of Isuna containing several wooden objects, one of which was clearly a shield; these particular specimens are now in the Pitt-Rivers Museum, Oxford.

However, during my short visit to the Isuna district, several local tribesmen were unwilling to reveal the position of the above caves said to contain arrows and drums, intimating that their people would not approve of such a visit; and an underground cave found at Ngongosoro, about 8 miles west of Isuna and not more than 10 miles away from the cave from which the shield had been obtained, unfortunately could not be entered because of temporary flooding. The informants claimed that it too contained wooden objects, including a shield.

Altogether 14 caves containing a total of 92 drums have been discovered. There are said to be 20 or more drums in further caves in Iramba, and reports of many other site areas have been received.

So far it has not been possible to account for the drums and other objects found in the caves. Of the tribes now inhabiting this region, the nucleus of the Nyaturu tribe is reckoned to have reached the Singida district from the east about 200 years ago; the Iambi and Iramba arrived in their present areas from the south about 150-200 years ago, and the Isanzu came southwards from Sukuma country only about 100 years ago. With the exception of the Isanzu, who, as mentioned above, attribute this material to the Wahenge—a people of whom no other record is known—none of the contemporary tribes have any tradition to explain its origin.

Drums from the cave at Kirondotal.

Single-string zithers and wooden implements, Isanzu. 6″ rule in foreground. Rock painting — inverted giraffe — upper left.

This would indicate that the objects were abandoned in the caves before the advent of the present peoples. Their tradition states that the area was uninhabited on their arrival, but it is almost certain that the Iraqw, Gorowa, Alawa and Burungi tribes, who have now settled in Mbulu and Kondoa, passed through this country on their way south from Lake Victoria. It is difficult to estimate the date of their migration, but it was presumably prior to the arrival of the Iambi and Iramba and therefore about 200-300 years ago.

According to Iraqw tradition, about the time of their journey the Tatoga, a pastoral tribe, were engaged in a similar movement south and small groups of Tatoga are still found along this route. The tradition of the Nyaturu maintains that, on their arrival in these parts about 200 years ago, they found the Tatoga roaming the general area of Kondoa/Singida, while the Tatoga themselves are reported to claim that they have grazed their cattle there for 250 years or more. There is, of course, uncertainty as to what movements really took place in this region in the earlier days.

The "drum-cave people" may have been driven out by the Iraqw and Tatoga, but the tradition of these tribes makes no mention of it. It is doubtful whether the Iraqw and Gorowa are responsible for the drums as they use no drums today. The Burungi claim to have only three small drums, kept at Farkwa, which they share with the Sandawe; and the Tatoga, a nomadic people, are hardly likely to have found use for objects which could not readily be moved.

In view of the size of the drums and other musical instruments, it would appear that those responsible for them were a settled agricultural community and, if there is any truth in the Isanzu legend concerning the Wahenge, these people also herded cattle.

As regards the wooden shield and the implements found in the cave near Isuna, these were probably placed there before the formation of the Nyaturu tribe, whose tradition does not account for them. The objects might well be associated with the drums, although there has not yet been sufficient time to conduct a proper search for drum caves in this area.

TRYPANOSOMIASIS RESEARCH AT TINDE.

By K. C. Willett.

Tinde Laboratory was built, under the auspices of the Medical Department of Tanganyika, in 1930-31 and has carried on research into human trypanosomiasis (sleeping sickness) since then. With the formation of the East Africa High Commission it became one of the divisions of the East African Tsetse and Trypanosomiasis Research and Reclamation Organisation and is now a subsidiary of the Central Trypanosomiasis Research Institute at Sukulu, near Tororo in Uganda.

Chiefly through the courage and devotion to their subject of the earlier workers there, Drs. J. F. Corson, O.B.E., and H. Fairbairn, O.B.E., Tinde has been able to make a unique contribution to our knowledge of the trypanosome causing East African (Rhodesian) Sleeping Sickness. Needing to make periodic tests of the infectivity of this trypanosome to man, they first infected themselves and so established the necessary confidence to obtain volunteers from their own staff and, later, from the local population. By this means they satisfied a requirement which was an essential to the performance of the main experiment for which Tinde was founded.

At that time a controversy was raging as to the relationship between one of the trypanosomes of game and domestic animals, *Trypanosoma brucei*, and that of East African human sleeping sickness, *Trypanosoma rhodesiense*. It had been demonstrated many times, and it is still true, that there is no means, morphological or other, of distinguishing these two save that the former can only infect animals and not man, and the latter both. Two schools of thought interpreted the known facts in different ways; one held that the two were distinct and the other that they were variants of a single species and that, if *T. rhodesiense* were maintained by transmission by infected tsetse flies from animal to animal without any intermediate passage through man, it would soon lose its power to infect man and so revert to *T. brucei* from which they believed it to derive. Tinde Laboratory was established to carry out this particular experiment amongst others, and herein lies the value of the pioneer work of Drs. Corson and Fairbairn in making possible the periodic tests of infectivity to man. As a result of their work the volunteer organisation has continued to the present day and it has been shown that the infectivity to man of at least one strain of *T. rhodesiense* is a very stable characteristic, never having been lost in the seventeen years of passage from animal to animal by fly since the strain was first obtained from a man in Kahama in 1934.

Published descriptions of this work can be found in many notes by Dr. Corson in the Journal of Tropical Medicine and Hygiene, the Annals of Tropical Medicine and Parasitology and the Transactions of the Royal Society of Tropical Medicine and Hygiene up to 1939. There is also a summary by him in the East African Medical Journal (vol. XVI, p. 84, June 1939) and a full paper by Drs. Fairbairn and Burtt (Fairbairn, H., and Burtt, E. (1946). "The Infectivity to Man of a Strain of *T. rhodesiense* transmitted cyclically through Sheep and Antelope...." *Ann. Trop. Med. Parasit.*, 40, 270).

Mention should be made at this point of the part played by Dr. Burtt who kept the Tinde work going through the difficult war period from 1939 to 1945. He was seconded from the Department of Tsetse Research by Mr. H. E. Hornby, then Director of the Department, in order to prevent the work from closing down with the departure of Dr. Corson in 1939. During his time there he made many important contributions to the research and was also responsible for extensive improvements on the station.

From 1944 to 1949 Dr. Fairbairn was resident at Tinde and was joined in 1945 by Mr. A. T. Culwick, M.B.E., who was at first seconded from the Provincial Administration and later appointed Research Officer there. Much of their published work is to be found in a series of papers in the Annals of Tropical Medicine and Parasitology from 1946 to 1951 and other contributions in the Transactions of the Royal Society of Tropical Medicine and Hygiene.

In brief, though the work at Tinde has given a conclusive answer to one specific question, in the course of years much more has been undertaken, many new facts have come to light and increasing knowledge has, as is so often the case in research, revealed a whole new set of problems. So Tinde, strongly reinforced by the Central Trypanosomiasis Research Institute, can look forward to many years of useful service to the community.

The Tatoga of Tanganyika (Part II)*

By G. McL. Wilson

IV. THE LINEAGE PRINCIPLE IN BARABAIG SOCIETY

Background

British administration reached the Barabaig some thirty-five years ago after the Germans were defeated. The Germans had appointed a headman in the area and he was made chief by the British and served for a period of about ten years. The Germans had effectively stopped the indigenous military organization by punitive expeditions from Singida and from Mbulu which converged simultaneously on the Barabaig at Basotu. There they hanged twelve of the leading elders and the chief medicine man, Gidamowsa, and left them on the scaffold for all to see. Gidananan, the grandson of Gidamowsa, of the Bajut sub-tribe, is still regarded as the most influential medicine man of the Tatoga in Tanganyika and his services are sought after by members of all of the sub-tribes. The Germans further drafted a hundred or more youths to a labour battalion which served in one of their campaigns in Portuguese East Africa. There are several elders at present in Barabaig who survived this campaign.

The British soon issued directives debarring hunting expeditions by youths and certain dances and symbolic dress thought to be responsible for the tenacious custom of murdering strangers for status. Peaceful government has been carried on, although not without difficulty, through an autocratic Government-appointed chief and his appointed sub-chiefs and headmen for the past eighteen years. The old chief retired recently and the Government took the opportunity of reorganizing the Native Authority by appointing the elder of each of the major clans as a Tribal Council. A new chief, elected by the Council, acts as its spokesman. This brings the Native Authority more in line with the indigenous political system but still with a great deal more authority and power than any group could formerly exercise.

The Barabaig represent one of the few remaining untouched groups in Tanganyika and although the processes of acculturation have begun they can still be regarded as having little or no noticeable effect on Barabaig culture. There is no white settlement in Barabaig country and the first Mission is being built today on the slopes of Hanang Mountain but in an area which is mostly populated by Iraqw so will not have much influence on the Barabaig. Few elders speak the lingua franca, Ki-Swahili, and apart from the chief and a few Government employees none wears European clothing. Trade goods in the district are still the same as thirty years ago; beads, cotton cloth, brass wire, iron chain, knives, axes, and latterly beer.

Very few Barabaig, if any, migrate as labourers because they have a keen economic and cultural incentive to stay at home. If they sell a single five-year-old bullock on the local cattle market, they are able to pocket as

*Part I was published in the issue for July, 1952, No. 33.

GHEIDA SID A TYPICAL HOMESTEAD WITH THREE WIVES AND A MOTHER

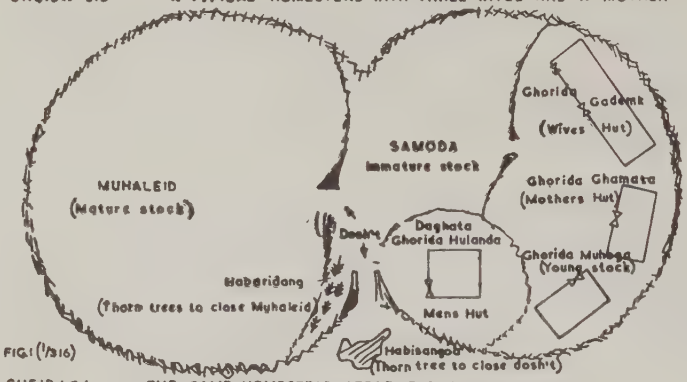


FIG. 1 (1/316)

GHEIDAGA THE SAME HOMESTEAD AFTER ELDEST SON MARRIES.

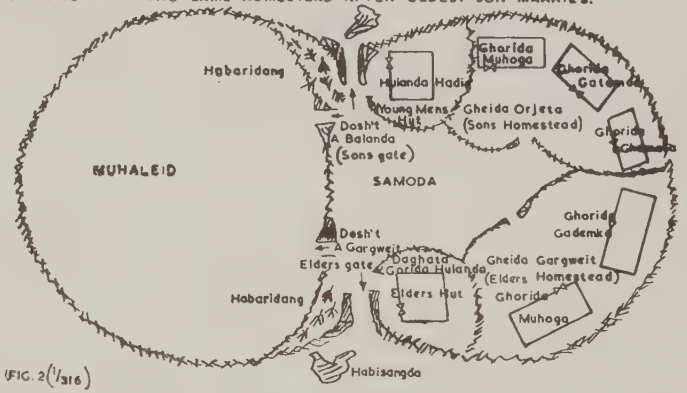


FIG. 2 (1/316)

GHORIDA GADEMK ~ A WOMENS HUT (FOR THREE WIVES.)

FIG. 3 (1/156)

DAGHAT GHORIDA HULANDA ~ MENS HUT.

FIG. 4 (1/156)

1. Senior wife's room. 2. Second wife's room. 3. Communal heart. 4. Junior wife's room. 5. Room for young stock, calves, lambs and kids. 6. Mud and dung plastered on upright poles laid side by side. 7. Mud and dung roof laid on poles and grass. 8. Bed, bullolit, of skins from cattle. 9. Larger bed raised off the ground consisting of skins laid on poles.

much money as the year's wages of an unskilled labourer. Furthermore every Barabanda knows that he can only trust his father or mother to care for his herd of cattle. He must remain at home to guard his inheritance and to secure his position in the affections of his father or he is liable to lose his inheritance entirely.

A school was established in Barabaig comparatively recently, so we are able to find a few youths who speak Ki-Swahili. Those in the past who went to the Mission schools in the neighbouring areas appear to have reverted to their indigenous life in the hinterland. Today there are a few Barabaig at secondary schools and these may have more effect on the local culture as they return in the future.

The Barabaig, who are a comparatively small group of pastoralists numbering about 18,500 souls, live in an area of approximately twenty thousand square miles much of which is tsetse infested.[5] The impact, however, of the cultivating pastoral Iraqw has been felt in recent years. In some of the areas bordering on Iraqw country only one in ten homesteads were found to be Barabaig. Moreover it can be readily seen that the Barabaig leave an area if it is tending to become cultivated, as at Ndareda, Gitting, and Masacaloda. This is also borne out by other Tatoga groups on the Wembere and Sibiti where they live in areas uninhabited by concentrations of cultivators. When they do take to agriculture they become rapidly assimilated by the local Bantu populations as at Salawe, Itigi, Manyoni, and increasingly among the Iraqw and Gorowa. A few Barabaig, due to their lack of cattle, have been forced to cultivate on the fringe of their tribal land. These, however, tend to be lost to their clans and rapidly adopt the customs of those groups among whom they live. Here the clan ceases to function as the basic political unit and we now find that the "village" or more accurately the "community" group, *gisjod*, has replaced the clan.

Social Structure

The Barabaig society is organized on patrilineal and patrilocal principles. The groups which we shall call lineages are made up of individuals, both men and women, who trace descent in the male line from the founding ancestor of the lineage. Marriage entails some transfer of allegiance to the husband's group but the clan of any female is as important to her throughout her life as that of her husband's is to him. In fact on marriage her husband takes on obligations to her clan, as she does to his.

Agnatic descent is established by the legal act of the payment of bridewealth. Bridewealth among the Barabaig is, in most cases, so small as to constitute no more than the symbolic establishment of the donor's paternal rights over all her offspring. It symbolizes the new jural relationship of the woman and her children to her husband's lineage but never completely severs the tie between the woman and her lineage. In practice it is a poor father who does not give his newly married daughter many more beasts than those which made up the initial bridewealth.

Three words of the vernacular epitomise the structure of Barabaig lineages; the *gheida*, the *ga*, and the *dosht*. Furthermore this structure is

The SIMINYEK

This corset of ostrich shell functions like any other corset, its purpose, besides beauty, being to correct the posture by straightening the back and confining the stomach. The SIMINYEK is worn only by marriageable women and women for the first year of their marriage or until they are pregnant.

reflected in the organization of the Barabaig homestead. The *gheida* is the name for the whole stockade or homestead of a Barabanda. The *ga* is a room within the women's hut, *ghorida gademk*, and each woman has her own *ga* in the *ghorida gademk*. On the bed, *bullalit*, the woman bears her children, her husband comes to her here, and this is the only place where intercourse with a married woman is regarded as legal either by her husband or those of his age-mates and relatives who have traditional access to his wife. Compensation can be demanded if intercourse takes place in any other place. In spite of the fact that it does happen, the Barabaig regard the possibility as remote and repugnant. *Dosht* means gate, that is, the entrance and cattle gate of the *gheida*, it is a symbol of unity; the people of one gate form the exogamous unit and intercourse between them is regarded as incestuous.

The *gheida*, or homestead, is the basic unit of Barabaig society, that is, it is the polygamous family comprised of a man, his wives, and their children. I have called this group the effective minimal lineage to distinguish it from the minimal lineage, a wife and her children, which, although not constituting a lineage group as such, may in time serve as the nucleus for just such a group. The Barabaig think of the largest corporate group in Barabaig society as the *dosht*, clan, those who came from a single "gate" or *dosht*. Hence to the question, "*Giban dosht?*" (literally, "You are from what gate?"), a Barabanda gives the names of that group of which he is a member, within which all of its constituents trace membership by the criterion of unilineal agnatic descent by reference to its eponymous founding ancestor, *dagheirjant*, usually back seven to ten generations, and within which exogamy is the strict rule and sexual relations between members are regarded as incestuous.

When we ask, "*Gibana ga?*" (literally, "You are from which room?") (i.e. from which room, *ga*, or woman, of the *gheida* of the founding ancestor's gate, *dosht*), then a Barabanda will answer with reference to a son of the ancestor of the *dosht* or to that woman whose son is regarded as the founder of the lineage segment. In effect it can be seen that descent although traced in the agnatic line diverges from the mainstream through a wife of the founding ancestor of the *dosht*. Several names of lineage groups of this degree are actually found to be the names of women. This group I have called the maximal lineage because it is the first corporate group recognised by the Barabaig below that of the *dosht*, clan, and which is recognised by a distinctive name, usually that of the ancestor who marks the point in the lineage where the *ga* diverges from the *dosht*.

This principle of lineage segmentation is shown in the arrangement of the homestead; for when the first of the sons, usually the first-born son of the senior wife, the *duachet*, marries, another gate, *dosht*, is cut into the thorn hedge of the homestead, *gheida*, and into the cattle corral, *muhaleid*, signifying the recognised fact that the son may someday be the founder of a new lineage group. The son uses only his gate and his cattle enter by it and enter the *muhaleid* by his own gate, there to mingle with his father's cattle. This mingling of the cattle each day and their departure in the morning and return in the evening constantly brings home to the Barabaig that although two gates have been created in the *gheida* the coming to-

gether of the cattle symbolizes the unity of the *dosht*. The son also establishes his own wives' hut, *ghorida gademk*, within the *gheida* of his father. His mother, the physical link between him and his lineage, has her own hut, *ghorida ghamat*, and a venerated place in the new establishment.

The Barabaig conceptualize two groups which are larger than the *dosht* but recognise that neither have corporate function. These can be described as the sub-tribes and the tribe. Every Barabanda knows that he is a Tatoga and of the myths of creation of Salahog, the brother of God, who was the first Tatoga. Those who call themselves Tatoga, the people, make up the tribe. They also know that the peoples of the Tatoga formerly fought among themselves; the groups which formed fighting units, or more properly within which internicine fighting is not tolerated, the Tatoga call *eimojik*, singular *eimochant*. To the question, "*Giwosji ana eimochant*?" a Tatoga will give the name of his *eimochant*, which I have called sub-tribe; the Barabaig, Gisamajenk, Buradik, Iseimajek, Bajut, Daragwajek, Mangat'k, and Ghumbiek, etc., to which he belongs. These groups although they have no corporate functions claim identification territorially and claim grazing and water in the land of their sub-tribe. Blood compensation had to be paid betwen closely related *eimojik* in the past as well as within an *eimochant*. The mechanism for securing blood compensation was through the various interlocking clans found between each of the *eimojik*.

Social Organization

The Barabaig have no doubt about the role of the father in procreation but they conceive of the jural father-son relationship not as dependent on the physical relationship but rather on the social relationship created by the initial payment of bridewealth. They do conceive that the ideal is when these relationships coincide but the fact that they may not does not concern them. They recognise the difference therefore between the pater, that is the legal social father and the genitor, or procreator, whoever he may have been. Once, therefore, a man has given cattle for a wife and the series of appropriate ceremonies completed with the consummation of the marriage followed by the fertility dance, then all offspring of that woman during and after the life of the donor are regarded as his legitimate descendants, unless of course the marriage has been disolved and the bridewealth returned, which can only ideally be done prior to the birth of a male child.

Levirate children are taught at an early age not to call their physical father *gargweid* or more familiarly *baba*, but *babeid*, which means little father. Children who for a variety of reasons are living with their mother but in a *gheida* of someone other than their pater are constantly reminded of the fact that they will one day return to their "cattle", the *gheida* of their pater. They are frequently visited by their agnatic kinsmen even when strained feelings may exist between the two groups. The idea that a child could be born out of wedlock is inconceivable to the Barabaig. This would mean that the child had been born without a clan and this is of course impossible. There is no mechanism for the adoption of a Tatoga child by a Tatoga but the Barabaig may adopt a child from another tribe, not for himself but for a wife who is without a son.

Lake Basotu, one of a series of crater lakes in the Barabaig country.

At least one clan and a maximal lineage of a major clan are said to have descended from an adopted or captive child. There is no social stigma connected with adoption but the fact may sometimes be brought up in a clan or lineage council in a jibing way to indicate that a group or an individual is a stranger. It does not affect the social position of the child however. He is treated in all ways as if he were the legitimate child of the woman to whom he was given by his pater. This again emphasises the importance of the woman or mother as the physical link between any individual and his agnatic lineage. In the past, when it was the custom to bring back captive children, these were treated in the same way. They were adopted by one or other of the captor's wives and were treated as if they were the pater's own children. The captor could never marry a captive girl unless he had given her to the wife of a friend whose daughters he would normally be able to marry. Even in this circumstance he must perform all of the necessary marriage ceremonies.

While filiation to the mother is automatically determined by birth, by the existence of her *ga* in the *ghorida,* so is filiation to the clan of the pater. Both relationships are irrevocable. If a woman, after she has borne one or more children, returns to her father's *gheida* or goes to live with a lover, legal separation or divorce is impossible because the return of the bride-wealth is impossible. Children born to her after she leaves her legal husband are still legally his although today this principle is beginning to break down under modern administrative conditions. The ties of agnatic descent are inelastic and bound by a network of legal, economic and ritual relations during the father's lifetime. Even after the father's death a man is still bound to him by the mystical ties of the cattle which he inherited and furthermore the welfare of his *gheida* and his cattle are bound up in the placations offered to the spirit of his pater, or to that of his paternal grandfather.

Maternal descent is important in several major aspects of Barabaig society but functions only within the range of known or ascertainable kinship. Barabaig know the names and the clans of their female links through at least three ascending generations and exogamy is the rule between ego and any of these clans. Day to day kinship relations with maternal kin are important to the individual because of the semi-nomadic cattle practices. A man may always find shelter and food at the home of a matrilineal relative. A man has, however, special obligations and privileges with the clan of his mother and especially with that of his wife, also to a lesser degree at funerals with the clans of his father's other wives, but these relationships are regarded as obligations to his father rather than to his father's wife. Further, maternal descent is used to differentiate between groups of agnates when reckoning lineage affiliations as was described earlier. This does not mean that there exists matri-lineages as such but rather that the point of fission between clans or lineage groups is often referred to a female ancestor.

Lineage Obligations

It has been said that a woman continues to be bound to the lineage of her birth and this needs further explanation. The criteria of lineage membership, the common interest in cattle, the funeral obligations, and the obli-

gations to new-born members of her lineage, ritual obligations to the spirits of the dead, must still be shared by a woman after her marriage and her husband is expected to help her fulfil these obligations. If he does not then the ties of friendship and mutual assistance created by the marriage may become strained to the point of breaking. This eventuality is regarded as even more serious than if the woman left her husband.

When the girl's father dies she and her husband build the gate of the dead, *bisert*, a secret gate in the *gheida* of the dead man, to allow his spirit to leave without his cattle knowing and through which all materials for his funeral are brought. The dead man's son-in-law must remain in the *gheida* throughout the long series of ceremonies to open and close this gate. He must remain sober and is rarely greeted by anyone except the closest kinsmen of the dead man. This is because of his unique relationship with his father-in-law, created by his marriage to the eldest daughter of the deceased. This signifies that just as the daughter's offspring are of a different lineage, that she has raised seed to another but friendly group, so the dead man has left the lineage in body but in spirit will remain a beneficient influence on the lineage.

When the girl married and the bridewealth of a heifer and several gourds of honey were passed over by her husband to her father to legalize the union, the girl's father gave her several head of female stock to begin the herd of her future children. The girl passed on cattle, given to her by her husband, to the sons of her brothers when they had their first teeth ceremonies, *weiriweiri*. This practical mixing of the cattle of the two *gheidak*, her husband's and her father's, overtly proclaims the spirit of friendliness and unity created by her marriage. When her own son reached the age of his first teeth ceremony, *dibit shodik*, her father, her brothers, and perhaps even her mother, gave gifts of livestock to him to begin his future herd. The brands on these beasts within her herd are a constant reminder to him of his obligations to the *gheida* of his mother and furthermore after he is circumcised their offspring are given the brand of his mother's *dosht* as well as his own or of his grandmother's if she has given him cattle.

A woman's ritual observances to the spirits of her clan's dead ancestors must also be maintained. She must placate the grave, *bungeid*, of her paternal grandfather or father regularly with butter, tobacco, beer and milk. This assures the continued fertility of the cattle given to her by members of her own clan and it also protects her children's health and ensures her continued fertility.

This series of reciprocal obligations and observances between *gheidik* which are created by marriage is a basic element of the lineage principle in Barabaig society. The woman is the focal point and her cattle are the overt symbol of these relationships just as she becomes the focal point in the segmentary principle within the agnatic lineage of her husband. The range of these relationships is through three ascending generations and the group so created changes as the elders of the highest strata die and as the women of the lowest strata marry. Whereas the agnatic lineage relationships are permanent and inelastic.

The husbands of sisters are naturally in the same relationship to the *gheida* of their wives, who are sisters, and because of this these men are culturally described as being the best of friends. They are in practice the genitor of each other's children and reciprocal terms of address, father-my child, are used between them and the children of their respective *gheidik*. These individuals are usually of different clans and always of different *gheidik*, because full brothers or even half brothers never marry girls of the same *gheida*. In this way it can be seen that the institution of marriage strengthens the bonds of mutual help between a wider circle of the *gheidik* of a number of clans than just those of the husband and wife. This is conceptualized by the women of the boy's and girl's *gheida* in the marriage songs and dances, *nyangid*, which follow the consummation of the marriage.

The overt symbol of this unity is the cattle brand of the *gheida* and of the *dosht* of the women to be found on cattle within their respective husbands' *gheidik*. The fact that cattle of the same brand are to be found in the *gheida* of individuals of different clans acts as a mystical bond between these persons because, as the Barabaig say, the spirits of the same set of ancestors are their guardians.

Genealogical Data

A Barabanda sees himself in relation to a number of groups made up of individuals who trace descent through a chain of ancestors linking him and then to Ghumbangaing, a legendary figure, who is regarded as the eponymous ancestor of the whole people. Within his own clan a Barabanda who has reached the elder status is able to trace his genealogy with accuracy back to its founding ancestor. He does not pretend to remember the links of his clan ancestor to that of Ghumbangaing, the founder of "the people as a whole" and many contradictions exist in comparing clan genealogies at this point and often it is obvious that a number of generations have been telescoped, more or less intentionally, to present a complete picture.

Eight to ten names in the direct line is the usual length of a genealogy given by informants, but some elders are able to go further back and recite as many as fourteen or sixteen. Every Barabanda is aware of the hierarchical principle around which the clans and lineage groups are arranged by the criterion of the primogenital factor. Thus he is careful when reciting a genealogy to state succinctly the point at which his *gheida* merges into the line of the *ga* and his *ga* into the mainstream of the *dosht*. The clans also finally merge by the same criterion into the *eimochant* or subtribe.

The Barabaig have a system of generation names which are exogamous groups. A child inherits the name below that of his father regardless of the difference between the chronological ages or of his age and the majority of those who make up the age-name as a whole. It is useful, however, in remembering genealogies because if the clan founder was of a certain age-name then the requisite number of steps must be taken to reach one's own age-name which may be eight or nine below that of the clan founder. This yardstick of age names is a factor which explains why most of the Barabaig elders are able to recite genealogies with unusual accuracy.

It should be remembered, however, that every name in a man's genealogical tree is not necessarily that of an actual ancestor. It is the custom, as we have already said, for the line of the lineage to branch off at a point where an outstandingly successful man has begot many descendants. The descendants of a lesser brother will often count this man as their own ancestor and cite his name instead of that of their pater. Thus the lines of the lineages tend to converge at points where outstanding ancestors are remembered. Otherwise the clans would have become so segmented as to lose efficiency and unity.

Non-lineage Groups

Not all of the groups in Barabaig can be said to be lineage groups. The neighbourhood or community group, the *gisjod,* is an important exception. This group is made up of those Barabaig who because they live in close proximity have certain common interests such as grazing, watering, and in the maintenance of social control. In the heart of Barabaig the members of a *gisjod* can usually also trace relationships by kinship but in the border areas this group is made up of individuals of other tribes as well as Barabaig.

Mutual help and cooperation, social recreation and beer drinking characterise the activities of the *gisjod.* A leader is recognised as an arbitrator and conflicts are settled in council by the elders of the *gisjod.* The *gisjod* has the power to hear all cases which affect the interests of the community and to apply sanctions ranging from a nominal fine of livestock to banishment from the community. Its sanctions are enforced solely by public opinion and depend on the willingness of its members to accept its authority. The members of the *gisjod* have an important function to play in the initial series of funeral ceremonies when as mourners, *shogodik,* they are obligated to contribute honey for the first beer making and also to provide messengers to spread the news of the man's death among his clan and lineage groups.

Another group, which we have already mentioned, which is not a lineage group is the generation name, *saigeida.* These are strictly exogamous groups. This theoretical horizontal division of the sub-tribe into age-grades does in no way approximate the age-set systems of the Nuer, Masai, Nandi or Kipsigis and should not be confused with them. Each generation of the lineages has a generation name. Barabaig can remember as many as thirteen generation names but can seldom agree in the order of those after the tenth ascending generation, which was the generation name of the eponymous founder of the largest clans in Barabaig.

In the past the chief function of the generation groups was war. Today, however, it is mainly connected with the ceremonials of funerals and circumcision. The women also figure in the generation groupings and a group of women of the same age-name may act as a corporate group to invoke sanctions against an individual, male or female, who has infringed the rights of one of their members. This enforcement is called the *ghworjot a gademk* and is effective in maintaining the rights of the women of the tribe. The sanctions, *njogot,* vary from public humiliation and ridicule of

the offender to confiscation of property and, in the past, to death. In all cases they kill one of the offender's best bullocks by beating it with sticks, which is symbolic of what they would like to do to him.

Groups of warriors who went together on raiding parties in the past were called *barangnulugot* and the fact that they were together on a raid set up a special relationship between them, *gaba raat.* This custom persists today when groups of young men, three to a dozen strong, go on hunting or murdering expeditions or cattle raids. These men marry sisters if possible and in later life build their *gheidik* in close proximity, thus strengthening the bonds of comradeship formed in war, cattle theft, or murder. This group is called the *raat.*

The *raat* is the strongest non-lineage corporate group in Barabaig society and serves as the primary social contact group for individuals who lack status and prestige by their position in the lineage hierarchy. Recently when a Barabanda was threatened with a fine of cattle by a European administrator for illegal grazing over the border, it was his *raat* who attacked and defeated a group of Wanyaturu tribesmen who he thought had come to enforce the fine.

Other groups which are temporary and spontaneous arise from time to time from the *saigeida* to enforce sanctions, *njogot,* invoked by the elders of a clan on one of their members who neglected to fulfil an obligation or who refused to obey an order given by the elders. A group of this type is called *ghworjot a gargwɔt.* It continues to exist as a group, however, only until its function of enforcing the sanctions of the elders is completed.

It can be seen from this very brief description that the Barabaig social structure differs in several important ways from the usual Nilo-Hamitic groups of East Africa. The institutions of marriage are fundamentally different and bridewealth takes on a new meaning. The fact that legal sanctions can be imposed and enforced by groups of women in a society which is patrilineal-patrilocal is again unique. The system of generation names may well represent the beginnings of the age-set system as found among other Nilo-Hamitic groups in Africa. It is hoped that in the future each of these facets of their society will be described in detail in this or some other journal.

V. BARABAIG MURDERS

Introduction

Barabaig murders have reached the headlines of the East African papers for many years. These murders are news, not so much because they are numerous but rather because of the particularly brutal and seemingly motiveless nature of the murders. The District Books and the files of those Districts involved, Mbulu of the Northern Province and Singida of the Central Province, contain many explanations and descriptions of the murders. The Barabaig, however, have been particularly skilful in covering the real and basic motives for the murders. The reason the elders are

GHAJOROJEK — Killers: singular GHAJOROCHANT

The man in the foreground killed a lion, the man in the background an enemy. The names of the various symbols are given on page 39.

reticent to discuss murders is that the murderers are not regarded with shame and opprobrium and the elders themselves, having murdered in the past, serve as the model and guide and exemplar.

It seems that the famous Ishingadeit, the war leader of the Barabaig who died in 1949, gave an explanation in 'baraza' to a District Commissioner some twenty years ago which was received by the officer with such enthusiasm that it became the stock answer to everyone who followed. His misleading explanation was that a young man must kill to obtain a wife and that the young girls dance naked, but for the *siminyek,* before their swain in the summer grazing areas. These young women would entice the young men in this way and finally, when their sweetheart was aroused, they promised him satisfaction if or when he could produce an appendage of someone he had murdered.

"Thus the warrior, aroused to a pitch of lust and desire, rushed into Singida District and murdered the first unfortunate he met."[6a] The elders were highly amused by this erroneous explanation and as it appeared acceptable to all who asked for an answer have given it ever since.

The basic cause of Barabaig murders is economic gain in cattle, *duk a geimart.*[6b]. The Barabaig rationalize the murders as follows: "If a man kills a lion or a cattle thief he has protected my cattle. All lions are potential cattle thieves as are all members of other tribes. Women of other tribes are killed because they are breeders of cattle thieves and therefore enemies. In the past we did not kill women or children, we captured them and held them for ransom, or took them into the tribe as our own. Therefore if a near relative kills an enemy, lion or human, I am in duty bound to repay him in cattle or other livestock for the service he has rendered me."

Five head of cattle to an African is, at today's prices, five years' wages and more, because the usual interest on one heifer is one calf per annum. In our ethnocentric value system five years' wages is roughly £5,000. There are many individuals in my Canadian society or in Britain who would cheerfully murder for less motive than £5,000, especially if they knew that those who paid the money would protect and honour them and that even if they were caught and confessed the crime before the tribal elders the inexplicabilities of British law were such that they had more than an even chance of being exonerated.

There are other motives however which grow out of the economic one as we shall see in what is to follow. It is necessary therefore to give a brief outline of certain basic aspects of the social structure to supplement the material already given on the lineage principle before the murders can be fully understood.

Many of the semi-statistical data presented in the following were gathered and presented in a confidential paper studied by a recent committee on Barabaig Murders and is the work of Mr. A. C. W. Lee, a District Officer of Mbulu. I must pay tribute to the sterling work done by Mr. Lee in analysing countless files and documents, on the subject of the murders, which he gathered from the Central and Northern Provinces and from the various archives in Dar es Salaam.

SOCIOLOGICAL BACKGROUND MAINTAINING MURDER CUSTOMS

Status, Role and Prestige

This section has been designed to highlight several facets of Barabaig society in order to indicate certain basic elements which sustain the tenacious custom of killing.

The first facet is the phenomena of status and role among the Barabaig. There are few primitive societies where status is so sharply defined as it is among the Barabaig. Every child is acutely aware of its social position from the time it begins to take cognisance in the *gheida* until it dies. Its very name may emphasise its social position. Barabaig society, as we have seen, is made up of a complex pattern of patrilineal clans with patrilocal marriage. The primogenital factor orders relationships between members of the *gheida,* determines inheritance, defines roles and specifies status. The fifty or more clans which together make up the Barabaig sub-tribe and the lineage and families of which each clan is composed are also arranged in a hierarchy of status.

The paramount status criterion in Barabaig society is wealth and wealth is measured in terms of cattle. The inheritance system greatly favours the first-born of the senior wife, it is he who inherits the bulk of the *gheida* cattle regardless of the number of other sons. It is not surprising therefore that this favoured position is conceptualized in Barabaig by a special name for him, *duachet,* which can be interpreted as primogeniture, first born or heir. The younger sons of junior or even senior wives have a precarious position because they are in an adverse position not only in terms of inheritance but also in terms of their socially defined role which relegates them to the position of genitors of the *duachet's* children. They must help him herd his cattle and be of service to him in many other ways if they are to benefit from his inheritance.

Barabaig do not accept this position with equanimity, and seek out other culturally prescribed ways of gaining status and wealth apart from the criterion of birth. The activities of warriors and hunters were one method of improving status and wealth in the past. A warrior received cattle in ransom for captives or, failing ransom, young captive children brought bridewealth and as members of his *gheida* provided labour to relieve him of routine tasks. The killing of an enemy meant gifts of cattle from his wealthier clansmen and the killing of a lion brought gifts of cattle not only from clansmen but also from all *gheidik* in the local of the kill.

The Principle of *Geimart*

The literal translation of the word *geimart* could be, propitiation, because this word or a derivative of it is used to describe the symbols and articles employed in most expiatory and propitiatory ceremonies. In cases, for example, when clarified butter is used as the medium or symbol of

atonement for a sin such as rape, the butter in this instance is called *geimart.* It is used by the offender to anoint the offended and her agnatic and affinal relatives.

The milk, butter or blood offered to the kinsmen of a Barabanda killed by another Barabanda is called *geimart* and by this offering, *gona geimart,* the institution of blood compensation, *geihung gak,* is set in motion. Why the cattle given to a warrior who has killed lion or a man should be called *duk a geimart* has long puzzled the writer.

The Barabaig say that these are *duk a geimart* because the killer arrives before them with his head anointed with butter. He himself has placed the butter on his forehead at the grave of his favourite protective ancestor. Thus the supernatural help of the ancestor has been solicited before beginning his quest for cattle.

By the killing of an enemy the warrior has placed himself in a special blood relationship, *gabagerk,* with the ancestors. He has placated the grave, *bungeid,* of an ancestor with clarified butter, *geimart,* and has anointed his own head which cleanses the blood of the deceased as far as his cattle are concerned. He also cleanses his stick and spear with the butter. When he approaches his relations they know by these symbols of his deed. His ostentatious dress marks him as a man of status and privilege. His demand for a beast is therefore backed by the supernatural weight of the ancestor for, as they rationalize, he has followed the way of the ancestors, he has killed the common enemy even as they did before him.

In the past the warrior sang of his deed throughout the community and received cattle from each *gheida* as he still does for a lion kill. Each lineage segment was in duty bound to pay a beast; if they refused, the killer could formerly invoke the legal sanctions of the *gwarjot a gargweit* and take the beast by force. When we observe the institution of *geimart* for a lion kill we can accurately describe that for a human kill as it was before the influence of Europeans. The killing of humans has been condemned not only by the European but also by the Tribal Council. Today, therefore, the form of *duk a geimart* varies from clan to clan and within each community.

The number of cattle a young warrior is able to collect for a lion kill varies between twenty and fifty head depending on the density of population in the vicinity of the kill, the size and influence of the clan of the killer, and finally the circumstances of the kill. Several informants have stated that for the murder of an enemy the number of cattle received today is very small because of the fear of exposure if distant relatives or neighbours are solicited. The absolute minimum is three head and more frequently five. The head of the murderer's immediate family will give at least one head. The head of his extended polygamous family will give another and the head of his mother's family will give a third. His mother's brother and father's sister's husband are usually safe persons from whom to solicit *duk a geimart.* If his father is or was a killer, then the twelve to twenty members of his father's *raat* are safe for solicitation. The husbands of his mother's sisters are absolutely trustworthy as these are the "little

JIBOT DABIT

The stick dance when warriors tally their kills by placing sticks into the ring. The man above had placed one and is about to place another.

fathers" of the murderer and any one of them may have been his genitor. They will each contribute at least one head. It can be seen therefore that in a well integrated community the killer of an enemy may receive, even today, as many as twenty head of cattle.

Symbols of Status

There were numerous overt symbols of prestige gained in this way. Every man wore a *sabotch'k,* a girdle of bark twine made for them by women; sisters, wives, mistresses, or daughters who admired their feat of heroism. The size of the *sabotch'k* indicated the number of deeds performed by the individual and thus his bravery. When the *sabotch'k* was forbidden by the Government twenty odd years ago each of the elders removed his and the Native Authority began to levy fines against any man caught wearing one. As late as 1946, for example, there were eight cases of youths fined two hundred shillings each for wearing the *sabotch'k*; another seven cases are recorded of youths fined between sixty and two hundred shillings in the same year for hunting.

The symbols worn for killing a lion are many and varied. The killer, *ghajorochant,* wears a skin skull-cap, a *ship'k*, which is completely covered with bead work. Attached to the cap is a long plume of thin pounded copper about eighteen inches long and one inch wide. This is called the *sheilaneid.* Half moons of brass, *ghwarjank,* are attached to each side of the *ship'k* and a fringe of fine steel chain, *gueanyant,* is worn across the forehead. Brass coiled earings, *sangaijojek,* with leather tassels, are worn in the ear lobes and the brass coil, *daroeit,* usually worn only by women, is worn around the neck. Brass bangles, *sechwek,* and brass rings, *onojik,* again usual female ornaments, are also worn. The highly prized bracelet of elephant ivory, *iraianda,* is worn if one can be obtained.

These ornaments were also worn in pre-European times for the killing of an enemy. Today, however, the murderer hides his deed from the eyes of possible informants.

It is significant that a lion killer and a man killer have the same name, *ghajorochant.* These men are given a place of honour at a special status dance, the *jibot dabit.* During this dance it is the custom for one warrior to be chosen the hero of the day, *gaburdadiant.* When these competitions take place each warrior places a stick into the ring of dancers for each of his deeds of valour as he sings the story of the kill and the cattle he gained. His witnesses in the meantime support him by taking up the sticks as they are placed in the ring. Others challenge him until finally the assembled dancers name the leader of the dance, *gaburdadiant.* If the runner-up was badly defeated and put to shame by the ridicule of the surrounding spectators he may be tempted to kill again. It is doubtful however if this motive would suffice without the three to a dozen head of cattle he stands to gain.

It can be seen from these data that the persons most likely to cling to these customs are the younger sons of junior wives who have no other status outlet in Barabaig society. From a sample of fifteen individuals known to have participated in the *jibot dabit* at the funeral of Gitamulda,

prior to the recent outbreak of murders, only one was a *duachet*, but even in this case his father was a younger son. There was not a single case of the primogeniture of a *duachet* out of the fifteen.

Many of the Barabaig dances have been banned by the Native Authority. In my sample analysis of the Katesh Local Court Book for the years 1933 to 1937 and 1941 to 1948, not a single case appears where this was enforced. Oddly enough, however, no evidence has been uncovered banning the *jibot dabit*, the most inciting dance of all although the Barabaig assume that it has been banned and therefore dance it only in the security of the hinterland.

These youngest sons are the persons who eventually become *mtembezi* or as the Barabaig say, "a man without a house," *siliahat*,[8] a most derogatory term. Occasionally they rebel against the status quo and leave the area to find work elsewhere. It is surprising how few leave, however, and those who do usually come back. I attribute this reticence to the "cattle complex" because, as was stated before, the sale of a couple of three-year old bullocks at today's prices can realize more cash than the year's wages of the average African unskilled labourer. There is always the chance of obtaining cattle in other ways. By herding the cattle of a wealthy relative, a hired man, *somnyant*, is given his food and has access to a wife as well as the usual yearly remuneration of one heifer. There is of course the age-old custom of stealing cattle and today this continues to be a serious problem between the Barabaig and the Nyaturu.

Clan Analysis of School Children

The social status of the children at the two schools in Barabaig was revealed in a social survey of clans and lineage position conducted last year. Of the ninety boys registered at Katesh School, only two were the *duachet* of their *gheida*. Less than ten were children of the first wife or first children of other wives. The rest were young children of junor wives. This may indicate that the Barabaig appreciate the opportunities which education may provide for their younger sons or that they prefer to educate their eldest sons in the traditions of the Barabaig. Education may therefore help to provide a solution to the problem created by the unequal inheritance system.

The Tribal Oath

I had suspected for many months that the Barabaig elders were able to identify every Barabaig murderer if they chose to do so. I became convinced of this fact during a recent visit to Mangola where I interviewed a group of Tatoga elders which included Barabaig, Gisamajenk, Iseimajek and Bajut. This group was without prejudices and stated frankly that the name for a lion killer and that of a man killer were the same *ghajorochant*. The Barabaig elders had never admitted this. They also pointed out the obvious fact that the *siliahat* kills for cattle and status. He must therefore have a male witness in order to dance and proclaim his deeds at the *jibot dabit*, and further, a witness is needed to verify his claim when he goes to his close paternal relatives to collect *geimart* cattle.

They verified that in the act of killing a lion or a man, it is he who strikes the first blow who claims the victim. This is a very important aspect of the kill. The elders state that there is no other significance in the "spear blooding" aspect of the killing as has been stated in reports by Government officials in the past. They also stated that although every sub-tribe, *eimochant,* of the Tatoga has had this custom in the past, the Barabaig were always the most enthusiastic and have held to it most tenaciously. Even their name means "to kill with sticks," the elders proclaimed. They argue that to kill for status motives and to remain quiet is impossible and foolish. The killer must talk about his deed to gain either cattle or status or both.

The reason for mutilation was explained as a carry-over from an old custom which existed before the European arrived. This was the custom of severing the finger of a captive to take to his relatives in order to secure ransom. Today young men who kill without witnesses take an appendage to convince the sceptic that they have killed an enemy, and to establish witnesses who will verify the kill when *geimart* cattle are demanded and at future dances.

The elders refuted the "murder camp" idea put forward in the past but did say that it is true that young people meet in the hinterland to dance and that a man may be incited to murder if he has no outstanding achievements in the past. Murder is not, however, a preliminary to marriage. The prime motive is the economic gain by obtaining *geimart* cattle from their close relatives. They condemned the stick dance, *jibot dabit,* and stated that this dance makes the young men get a swollen head and may lead to murder. They seemed to fear its consequences and refused bluntly to put on a demonstration for me. The status gained by obtaining cattle and the overt expression of status as institutionalized in the *jibot dabit* are the basic causes which lead the Barabaig to kill.

On the topic of spear blooding the elders further explained that, as the custom was for the first to blood the spear to be accredited with the kill and therefore to be able to claim *geimart* cattle, his accomplices remained only as witnesses; therefore if three men kill, only one gets the credit and consequently the other two will seek an accredited kill each because they have already been involved. This is precisely what happened in January, 1952, one victim was killed and two more murders followed. The statistical data of murders also verify this by revealing that the victims are usually killed in twos or threes, or several are killed one or two days apart. The elders summarised by pointing to the basic motive as the economic gain in *geimart* cattle, because whether the murder was committed for blood revenge, for outstanding injustice, or motiveless killing for status and cattle, the killer is still, by custom, even by a custom which they overtly condemn, entitled to claim *geimart* cattle.

We did our best to involve the age-set organization in our discussions with the elders. They were frank in stating that in pre-European times the leader of the warrior set sent out organized parties to war against their enemies which included all foreign tribes. Today, however, they state that the age-set structure has only a few remaining ceremonial functions at

funerals and circumcisions. Furthermore a survey of the age-names of known murderers did not reveal any coincidence between a particular set; all were more or less equally represented.

The *bungeid,* which is a funeral ceremony, has an indirect connection with killing as was shown in the January and February killings of 1952. At this ceremony the stick dance, *jibot dabit,* was performed and several of the elders took part in it, recounting the brave deeds of the past. About twenty-five younger men are known to have participated. This dance seems to have a megalomanical effect on those participating and when the elders are asked to put on a demonstration they appear geuninely afraid to do so because they fear that the young people will get a swollen head, and that dire results will follow. This dance is not a prerequisite at a *bungeid* and it may be performed on other occasions such as at a circumcision ceremony. The reason it usually happens at the *bungeid* is because several hundred people are assembled and it is an opportune moment for the young warriors to gain recognition and status. Beer is plentiful, the young women are present and the elders themselves often start the dance by boasting of their former prowess at the kill, emphasising both lion and enemy killings.

The tribal oath is the only mechanism by which a murderer can be caught failing positive identification by witnesses. It is a tribal institution by which a group of influential elders are able to force individuals to tell the truth on the threat of supernatural consequences. These elders are believed able to invoke automatic and devastating supernatural sanctions against a liar, his family and his clan. It works most satisfactorily if the close relatives (those who are most likely to know of the killing) of the individual involved are present. These should include the leader of his clan, the *duachet* of his lineage and the head of his *gheida.* His mother, her brother and her father, and if he is married, his wife's father and her brothers should also attend. His brothers, members of his circumcision group and his age-mate neighbours are not absolutely necessary but his witness will most probably be a member of one of these groups.

Any individual who knows that the person taking the oath is guilty will not allow him to take it because the Barabaig believe that a person who condones a liar is himself liable to the automatic sanctions. The first step in the investigation of Barabaig murders should therefore be an assembly of Barabaig elders to begin a long series of 'barazas' to interview every likely suspect with his relatives present. This was done by the writer after the recent outbreak and it was instrumental in identifying the three murderers of a Nyaturu boy. These three, incidently, are also said to have murdered two women the following day in order that they could claim one victim each.

It would appear to this writer, therefore, that the calling of a 'baraza' of the Barabaig elders is the first essential when a murder occurs and should happen automatically. The effectiveness of this 'baraza' will depend on the speed with which it can be assembled and might well be institutionalized by the Native Authority as an essential concomitant of their investigation. The 'baraza' is best held near the scene of the incident since those

Barabaig living in the area are those most likely to be able to provide information. There is a high statistical correlation between the place of the murder and the homestead of the murderer; if not the murderer himself then of one of his accomplices. Almost invariably it is well within walking distance of a day's return 'safari'.

Past experience shows that although the elders can produce the names of murderers, many are acquitted because of the lack of evidence against them and because of the laws of testimony which are incomprehensible to the elders. Further, they are confused by the fact that informants who have revealed the names of the murderer, because they were with him but took no part in the crime, are usually hanged along with the murderer as accomplices. These two points militate against cooperation by the elders because in the first case, that of acquittal, the murderers who return ridicule the elders and condemn them for their part in the arrest. In the second case, of hanging accomplices, the elders point out that a man is a fool to help the elders because he may become involved to the extent of being hanged himself.

The elders feel that they should have the right to try these murderers if they are acquitted by the Government and to fine them in cattle. They further state that if a person gives evidence against someone he has seen murder, but does not participate himself in the murder, he ought to be given protection providing he had no prior knowledge of the intention to kill. In the recent case where the murderer was released and his accomplices sentenced to hang, the elders fined the murderer seventeen head of cattle for blood compensation. This indicates that although the elders provide the exempler they are now willing to cooperate with the Government.

A Typical Case History of a Murderer

Ego was born to the fourth wife of a man who was the eldest son of a fourth wife. His father had five wives and fourteen sons. His father had prospered in spite of the fact that his inheritance was small. The *duachet,* the first born of the senior wife, is already an old man with children as old as Ego and the first and second sons of the second wife are not far behind the *duachet* in age. These three men had received a large number of cattle even before their father died. In the ordinary way Ego would have been seventh in line of inheritance and would have received perhaps three beasts, but because he failed to fulfil the many obligations to his father he received nothing when the old man died. His eldest brother received eighteen head as fourth in inheritance and with his mother set up his own homestead and married shortly after.

Ego was in jail for cattle theft when his father died and on returning accused his brother of hiding or selling his inheritance and, despite the explanations of the *duachet,* the new head of the lineage, he refused to believe that he had been given nothing. He stayed in his brother's *gheida* for several years and appeared to settle down until he decided that he wanted to marry. His brother stated that he was hardly in the position to help him as his own herd was so small. Ego might have gone to his mother's brother if she had been a Barabaig, but in this case she was a

Nyaturu. Furthermore her brother was a faithful Government servant of many years standing and refused to help a man he considered to be a *siliahat* and a thief.

Ego returned to theft and succeeded in stealing ten head of Nyaturu cattle which he hid among his age-mates' cattle. Shortly after, he killed a lion and received about ten head from his relatives. His eldest brother gave him two head. During his collection of *geimart* cattle, for the lion kill, he was arrested and convicted of the cattle theft and sentenced to three years imprisonment. The stolen cattle were returned and those which he had sold replaced from the herd he had built up from the lion kill.

When he returned to Barabaig from jail he found that his cattle had been lost, stolen, or had died. He refused to believe his relatives and swore never to help any of them and began a life of wandering with his age-mates. He had few friends and spent a good deal of his time begging enough to eat from them. One day when he went to the cattle market at Katesh he saw a beast sold which he thought was one of those he received from his brother for the lion kill, which convinced him that his relatives were lying to him.

On his way to his brother's he stopped at a *bungeid* ceremony and there danced the stick dance for the lion he had killed some years ago but was put to shame by the fact that his only kill was over three years old. He determined to kill in order to shame his brother into giving *geimart* cattle and to regain the position of status out of which he was cheated by being put in jail. Two days later, with two of his circumcision group, he went to Nyaturu on the pretext of stealing cattle. There he saw an opportunity and killed. The following day he and his friends returned and killed two women a few miles from the scene of the first murder.

When questioned as to his motives for killing he bitterly stated the following. "Look at my *hanc't* (cloth), is it not torn and small like a boy's? I have been cheated by all of my relatives and my mother's brother, *orjetiya,* is a no-good monkey. I wanted my cattle back but they would not give them. If I killed they would be forced to give them back. Did not my brother kill two years ago when I was in jail? My mother gave him a sheep of mine for me."

Sub-tribe and Clan of Persons Arraigned before High Court

The following information was gleaned from the High Court files and from informants who gave brief accounts of each individual. I was able to discuss with informants forty-five of the fifty-two arraigned before the High Court, of these persons twenty-six were convicted. However, all of them were guilty in the eyes of my informants.

There were sixteen clans represented and six sub-tribes of the Tatoga group. There were forty Barabaig and one from each of the Gisamajenk, Bajut, Buradik, Rutageink and Iseimajek. All but two of the forty-five lived in Barabaig and the Iseimajek and Gisamajenk lived in Mbulu District at Dongabesh. It is significant to note that all of the major clans were

represented except the Samohent, the largest. My informants stated that this was because the Chief of Barabaig for the past seventeen years was of this clan and that he protected them. Two of the three accused recently before the High Court were of this clan, and furthermore, seven of those who participated in the stick dance at the *bungeid* of Gitamulda, mentioned earlier, were Samohent. Two of these are known to have killed lion. The other five refused to give their reasons for dancing.

Summary of Sub-tribes and Clans

Sub-tribes		Barabaig Clans	
Gisamajenk (1)	Daremajek (4)	Aseichek (3)	Halamk (1)
Buradik (1)	Basangek (3)	Hilbamusha (1)	Arajik (1)
Bajut (1)	Barabojek (2)	Daredajek (1)	Modonojek (1)
Rutageink (1)	Ghowok (4)	Hilbanagowa (1)	Hilbasalap (1)
Iseimajek (1)	Hilbanyangura (5)	Dudiek (1)	
Barabaig (40)	Hilbamolamu (5)	Hilbagwaloing (1)	

It has been argued for many years that only the Barabaig sub-tribe of the Tatoga kill. It can now be definitely stated that although the Barabaig appear to have committed ninety per cent of the murders within the past twenty years at least five other sub-tribes have been involved. Furthermore, last October a telegram was received by the Police Officer at Mbulu to the effect that a man (Nyaturu) was murdered by Barabaig thirty odd miles north of Singida.... "One of the murderers had long hair." We answered to the effect that no Barabaig had ever been known to have long hair. The customary hair style is a short crop or a half-shaven or completely shaven scalp. We did not know, at that time, that the young bloods among the Buradik on the Wembere and Sibiti, not far from the scene of the crime, do wear their hair in long oiled ringlets. Furthermore in each sub-tribe visited the elders stated that formerly *geimart* cattle were given for the killing of an enemy. Subsequently news was received that this particular crime was committed by a Buradik living at the time in the Wembere near Sekenke.

Extraneous Factors

The Barabaig murdered all strangers in the past and members of each neighbouring tribe were more or less equally represented as victims. Latterly however those chosen as victims were largely Nyaturu. The "why" of this phenomenon is easily explained. In the first place some Barabaig have recently taken to agriculture in the border areas along the Bubu River and near the new fly clearings in Mbulu and here they marry and live among the Gorowa and Iraqw. These Barabaig are settled immobile, semi-pastoralists, dependent on the goodwill of their neighbours and therefore readily report those of their own tribe who behave in a manner which is likely to threaten their security.

Those living along the Nyaturu border, on the other hand, are still pure pastoralists and regard their cultivating Nyaturu neighbours as a constant threat to grazing and watering. Furthermore the border separating the Barabaig and Nyaturu was intended to divide the waters equally

between the two tribes and in some cases cuts through wells and watering points. The Barabaig feel, rightly or wrongly, that they have not been given a fair share of the water and that in any case the whole of the water and grazing in this area was once theirs. For years the border was merely a line on a map and the Barabaig and Nyaturu used it together, but within the past twenty years the Singida Native Authorities along the border decided from time to time to enforce it by imposing heavy fines on Barabaig found within the area. These fines were often imposed by the arbitrary confiscation of cattle and usually without trial, rarely was a receipt given for them. These cattle were often sold by auction to the elders of the Nyaturu Native Authorities at prices much below the market price. The Barabaig clearly did not understand the reason for these confiscations and felt that their cattle had been stolen albeit with the support of the Native Authority. Besides the confiscations the Nyaturu, pressed for grazing themselves, began to demand the exclusion of the Barabaig. The latter were burned out of the District several times only to return after the trouble settled down. Furthermore, because the Barabaig continued the customs of murdering Nyaturu and of organized cattle raiding, they were also expelled from Singida District on these counts by the Administration and Police.

These conditions continued and gradually deteriorated over the past twelve years and consequently a long series of outstanding grievances accumulated among the people living on both sides of the border. On a recent 'safari', for example, a District Officer recorded over one hundred such cases in ten days. Whenever Barabaig went to the Native Authorities in Singida they were badly treated and told to go home. The same applied to Nyaturu who went to the Barabaig Native Authorities. Consequently when a Barabaig killed a Nyaturu for the traditional reasons already outlined his relatives and neighbours, who had outstanding grievances with the Nyaturu, praised the act rather than condemned it, whereas his chances of receiving praise or cattle for killing a Gorowa or Iraqw were slim.

Because of the attitude of the various Native Authorities, individuals took this opportunity to default on debts owed to members of the other tribe. During the famine of 1950 many Barabaig loaned Nyaturu milch cows to feed their children, sometimes in exchange for grain and in other cases because of friendly relations between the families. Most of these animals were returned after the famine but many were not returned because the Nyaturu knew of the strained relations between the two groups and felt that their own Native Authority would protect them. Some Barabaig, who had not yet learned to seek redress of grievance through the proper channels or who had tried but were rebuked by the Nyaturu Native Authority, encouraged their youths to seek redress in the traditional manner by killing or by cattle theft. It is interesting to note that in a recent double murder and retaliatory murder all of those involved had outstanding cattle or other grievances one with another.

The Barabaig elders stated at a recent 'baraza' that the custom of "revenge killing" is still apparent and that this is the work, in fact it is the duty, of the first born or the *duachet* (i.e. the head of the family).

Revenge is usually for the death of a murdered relative or revenge for what is considered to be a gross injustice. They admitted that a long outstanding cattle debt may incite the young men of a homestead, *gheida,* to avenge themselves on their loss of inheritance. They point out, in their particular logic, that a debt of one cow becomes a debt of ten cattle in ten years. Thus an apparently small debt develops in time into a very large one. They were unanimous in the opinion that if they could settle their many neglected cases against the Nyaturu, many of the causes for murders would be alleviated. "We do not kill our friends," was a phrase which recurred often. The point being that if the incentive to murder is there, then the person murdered is obviously someone, or a member of a group, with which there are outstanding grievances. Even the *siliahat* is more likely to kill someone, or a member of that person's family, with whom his clan or lineage has outstanding conflict.

This course of events was brought to a head by the outbreak of murders in December 1951 and January 1952 and by a rash of serious thefts of cattle. By using indigenous methods and pressures, three of the murderers were caught and two have been sentenced to hang. The effectiveness of Police and Administrative action in this case is to be commended. However, this is a negative side of the picture and fortunately the Government of Tanganyika asked for a detailed analysis of the problem. A paper was prepared along these lines and studied by a high-level committee of Police and Administrative Officers in August 1952.

The committee which met in August got to the kernel of the matter immediately. The reason Barabaig continue to murder Nyaturu of Singida District and no other tribe is because of the long outstanding conflict between these two groups whose cultures are so different. The committee acted promptly and, within a month of the meeting, funds were available to erect permanent buildings for a Border Court, a rest house and a police stopping point on the border in the heart of the troubled area. Within two months the contracts had been let and work begun. Although delayed by the plague at Ilongero, the Border Court, made up of three Nyaturu elders and three Barabaig elders, was formally opened in temporary quarters by the District Commissioners of Singida and Mbulu on September 23rd. On this day the first of the long series of outstanding grievances was heard and judgement given. This even marks the beginning of a new era in Barabaig-Nyaturu relations and will prove to be an effective instrument in maintaining peace and in establishing goodwill between the two tribes.

The committee also decided on a series of actions which will speed the processes of acculturation among the Barabaig. A Mission was invited into the area to build a hospital, schools and a church. The programme of building new Government schools was accelerated. New roads have been planned and one already built to open up the hinterland of the country where many Barabaig still escape road work, fly clearing, taxes as well as education and medical facilities. Water development has been given priority.

The Native Authority of Barabaig has already been reorganized to bring it more in line with the idigenous political structure. The judicial authority, once invested in an autocratic chief, is now the prerogative of a

council of clan elders. The new chief, indigenously a powerful and wealthy man of one of the largest clans, is merely an administrator. The benefits of this change were seen this year in the fly-clearing areas, where a record of man-hours was achieved. Furthermore, progressive elements among the Barabaig can look to the future for more effective government and support. The Administration has wisely decided to give the Barabaig a great deal more of the time of a District Officer than their numbers warrant in order to implement the policy of the committee.

In short, therefore, it can be seen that whereas the motives which cause Barabaig to kill are rooted in aspects of culture, the long-term method of dealing with the problem must be in planned culture change. The processes of culture change among the Barabaig must be accelerated and ameliorated before this tenacious custom, which is a direct challenge to law and order, is forgotten.

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5. There are excellent descriptions of the flora and fauna of Barabaig and of their country in an article by Dr. C. H. N. Jackson, "The Mangati", Tanganyika Notes and Records, June 1942, and I feel that it would be presumptuous to try to improve on it as Dr. Jackson is an expert in this field.

6a From the Mbulu District Book.

6b The principle of *geimart* is explained fully on page 58.

7. *The Concise Oxford Dictionary,* 1940: *Primogeniture*—Fact of being first born of the children of the same parents. *Primogenitor*—Earliest ancestor.
Spoken quickly it sounds as written above, *siliahat,* plural *fugalihat.*

8. This is literally *sid a lehat,* plural *fug a lehat,* which means 'a man of much hunger'.

BAO

By R. de Z. Hall.

The game of *bao* is probably played, in some form or another, by almost every tribe in Tanganyika. It is mentioned by many writers and will have been observed by many, and played by some, readers of this Journal. But no-one has systematically recorded any of the Tanganyika games. The present article seeks to furnish a general description and a notation by means of which local varieties can be recorded. The material is drawn, almost entirely, from a monograph on the History of Board Games, other than chess, which has been published recently (1). In one variant or another, the game is known in almost all parts of Africa except the extreme north, in Arabia and through India and south-east Asia to Indonesia and the Philippines. The first evdence of its existence comes from Egypt in the Empire Age (1580-1150 B.C.). It was known in Ceylon in the early years of the Christian era and in pre-Mohammedan Arabia, and travellers of the sixteenth and seventeenth centuries recorded it in the Levant, Mesopotamia, Jerusalem, Central Arabia, and Abyssinia.

The generic name used by Murray, the author of the work cited, is Mancala, the Arabian name. It was from Arabia that the game spread, and though the lines of distribution must necessarily be partly conjectural, particularly until more evidence is available, it is likely that the main secondary focus for Africa was in the Sudan, though another probable line of spread was along the East African coast.

The following description is of the nature and rules of the simplest typical form of the game as played in Tanganyika. The board contains four rows of cup-shaped depressions, eight in each row, two rows being "owned" by one player and two by his opponent. Each player has 32 pebbles or seeds, hereinafter called "beans," placed two in each hole. There is usually a series of opening moves or grouping, often conventional, after which play proper starts. The turn of each player consists of one or more laps, all the beans from the selected hole being lifted and sown one in each hole anticlockwise, beginning from the adjacent hole. If the last bean falls in an unoccupied hole the turn ends. If it falls in an occupied hole, it is lifted with the bean or beans therein and the run continues. If this occupied hole has beans in opposition in both of the opponent's holes, the opponent's beans are captured and sown in the player's holes, beginning from the hole in which the first bean of the lap was sown. The player continues until no more captures or laps can be made, when the move passes to the opponent. The object of the game is to capture all the opponent's beans or to reduce them to such a condition that he can no longer move. A singleton cannot be used to make a move.

In order to illustrate the above, it is necessary to introduce Murray's notation. The players are termed X and Y. The holes are designated:—

```
Y   h g f e d c b a
    i j k l m n o p
X   P O N M L K J I
    A B C D E F G H
```

(1) A history of Board Games other than Chess: H. J. R. Murray, Oxford, Clarendon Press, 1952.

Each lap is given a separate line in recording and is defined by the number of beans lifted and the hole from which they are lifted. Thus X 3H means that three beans are lifted by X from H and sown in I, J and K. If K is empty, the lap and the move stop. If the opponent has no beans in both n and c, but there are beans in K, another lap is played. For example, if there were three beans in K, making with the sown bean four, the next lap would be 4K, sown in LMNO. Now let it be assumed that there are two beans in j and three in g. A capture can now be made, which is noted by a colon after the lap notation, thus 4K: and the full result is noted as 4K: j2g3. The five captured beans are sown in LMNOP and the notation shows this operation by brackets, thus (5K). Thereafter if there are beans in both i and h, they are captured and sown, again as from K, in L, etc.: if this condition is absent and there are one or more beans in P, they and the last of the sown beans are lifted and sown in AB, etc: and if P is empty, the lap and move stop.

This simple form of the game is not recorded for Tanganyika in the sources available to Murray, which only cover a few tribes on the periphery of the Territory. I have recently found it, with conventional opening moves, in Unyamwezi, and it is not improbable that it has a wide distribution in the centre of the country. Outside Tanganyika, it is recorded for Madagascar and for tribes on the Uganda-Sudan border.

Variations of the form are characterised by "reverse" holes, from which moves may be made clockwise if they result in a capture. There are two distinct forms of the variation, one common to the lacustarine Bantu tribes of Bukoba, Biharamulo and Ngara, as well as those of Uganda and the Barundi. The reverse holes are A.O. and a and o or sometimes A B.O. P, a, b, o and p. The general rules of play from a reverse hole are that it may be either anticlockwise in the usual way or clockwise if a capture can be made. The beans so captured may be sown clockwise if a further capture can be made, otherwise they are sown anticlockwise. In Murray's notation, a reverse, i.e. clockwise move is shown with an asterisk in front. The main play is preceded by a series of opening moves, the speed and apparent illogicality of which are apt to deter the casual observer: and a characteristic of some games is a dramatic and conclusive ending by capture from a, p and h, i (or A, P and H, I) in one turn.

The coastal game, *bao kiswahili*, resembles the type game in some respects, but in others is entirely different. The board is similar, with four rows of eight holes each; each player has thirty-two beans : the principle is to capture the opponent's beans and to re-sow them on one's own half of the board; and the manner of moving is similar to the extent that if it falls in an unoccupied hole, the move ends, but if it falls in an occupied one it is lifted with the bean or beans therein and the move continues. There the resemblance ends. There are basic differences, the first of which is that each player starts with only 10 beans on the board, while the remaining 22 are sown one by one in what may be termed the middle play. The second is that captures are only made from the front row and the third is that captured beans are always sown from one end or other of the row, not from the adjacent hole. The opening play consists in placing the 10 beans in a conventional position and then rearranging them. In the middle game, each turn begins by placing one bean from the store, called *namu*, in an occupied hole, a capture being made if possible. If a capture is made from hole o or p, sowing is from I and if from i or j, it is from P (and vice versa

for the other player). If the capture is from the four middle holes, sowing may be from either end. If no capture can be made, the *namu,* is placed in any occupied hole in the front row and the beans may then be sown in either direction. Part of the object in this middle game is to build up an accumulation in holes L and l, known as mji and if the player has nowhere to place his *namu* except the *mji,* it is placed there and two beans are lifted for sowing. In the end game, after all the *namu* have been placed, a move may take place from any hole with more than one bean in it and may be in either direction. If no capture can be made on the initial move, but the last bean falls in an occupied hole, further laps may be played, but no capture may be made in the round. The game ends when the front row holes of one of the players are empty or contain singletons only.

No very clear picture of the game emerges from this recital of the main rules and an illustration follows, as transliterated by Murray from a game Sanderson (2). Two stages of a very long game are given, one to illustrate the middle game and the other the end. Starting from the position:—

Player Y	x	x	x	x	x	x	x	x
	x	2	1	10	x	x	3	1
Player X	x	1	1	1	11	x	x	x
	x	x	x	x	x	x	x	x

the play goes:—

Y 1 : M — i.e., he places a *namu* in 1 and takes the Bean in M.
i — He places the captured bean in i

X O : 2j
xP, O
x30 — he takes the two in 0 with the one which he has sown there and continues clockwise, x denoting a clockwise move
x12L : i
P
x3P : 11 l
xP, 0.....F
x2F
x2D
x2B
x2P : k
P

Y p : 2I
xp, o : 2J
xp, o
x
x5o

The illustration for the end game is as follows, the moves being shown in columnar form in order to save space:—

Player Y	4	2	3	1	2	x	1	3
	x	1	x	x	x	4	1	x
Player X	x	5	19	1	x	x	x	x
	2	x	2	x	2	x	2	2

(2) Sanderson, M.G., "Native Games of Central Africa" in **Journal of the Royal Anthropological Institute**, xliii, 1913.

i, j, . . m	P, O	X (contd)		Y 5h : 2L
X N : k	Y i : P	4H		i j : 40
P	i	2L		i, j, k, l
Y l : M	3i	2N		2l
i : P	2i	4P		X x4B : 3k
i	7n	Y x4d : 2I		P, O, N
3i	X N : k	p, o : 2J		x3N : n
3i	P	p, o		P : 4i
2o	Y j : O	4o		P O, N, M
4a	i	X 4G ; n		x2M
2e	X 22N	I : 5p		x7K
3g	2D	I, J..M :l		x3D
Y j : 50	X N : 2k	I		x2A : 5j
5j	2F	4I		xP, O..L : 7m
		4M		and wins, having
		6A		cleared the front row

The final position is:—

x	x	4	1	x	3	4	2
x	x	x	x	x	x	x	x
7	5	2	1	3	x	4	1
x	1	7	x	6	2	2	2

(Note:—the moves given do not correspond entirely with those in Murray's book, where errors have crept in).

A different form of the game again is found in Africa south of the Zambezi and among the matrilineal tribes of Nyasaland : it may possibly occur among the matrilineal tribes of south Tanganyika, unless it has been displaced by the coastal form just described. In this there are four rows of holes, but a great variety of holes per row, from 6 up to 28, and usually but not always two beans per hole. The general rules for the moves are similar to the type mentioned first—anticlockwise, with a move beginning from any hole with more than one bean in it and continuing with several laps until the last bean falls in an unoccupied hole. But the rules of capture are quite different in that it is the single bean falling in an empty hole which makes the capture, and captured beans are removed entirely from the board and not re-sown. Typically the capture is of the beans in the opponent's front-row hole or from both front and back rows, but there are variations whereby other groups of beans may be taken also. The Arabian game of Zanzibar and the coast *bao kiarubu,* belongs to this group.

Finally, there is a form of the game which is widely spread in Kenya and is almost certainly to be found among the Masai of Tanganyika and possibly in the North Mara and Musoma Districts, since it is associated with the Nilo-Hamitic tribes and those Bantu tribes which have been affected by them. In this, there is only one row per person, of a varying number of holes, usually 5 to 8, but in a Masai example 40 to 50. Play starts from a hole on the player's own side, but sowing goes on in the opponent's row, until the last bean falls in an empty hole. Should this hole be on one's own side, any beans opposite are captured and removed, and most games have special rules whereby the contents of other holes are taken too. If, however, the move has ended in the opponent's hole, the turn passes to him—but again with exceptions where one captures

beans on one's own side of the board. Often moves are alternately anticlockwise and clockwise. The game goes on until the one or other player cannot move. Several games have particular rules about accumulations in a special hole, comparable with the *mji* of *bao kiswahili*.

The literature of the game for Tanganyika is exceedingly small except for the lacustrine tribes of Lake Victoria, and the Curator of the King George V Memorial Museum will welcome descriptions, either with or without records of actual games following the notation given. In particular, nothing is recorded about the game as played by such large tribes as the Sukuma, Ha, Gogo, Chagga, Shambaa, Nyakyusa, Bena, Ngoni and Makonde, while particular interest would attach to descriptions for non-Bantu tribes such as the Iraqw and the Barabaig.

A Series of Rock Paintings near Mwanza.

by

R. E. S. Tanner.

All of these rock paintings, with the possible exception of No. 3, have not previously been seen by knowing eyes, and they represent an altogether unreported series of a single type which fits in a large gap in a map showing the rock paintings of Tanganyika.

The author has searched diligently through *Tanganyika Notes and Records* No. 29 of 1950, but nothing closely resembling these designs has been recorded there and the coincidence of similar colouration can hardly be regarded as evidence of anything other than the widest affinity.

Almost all these sites showed considerable overlaying of designs and the subsequent painters had made no attempt deliberately to obliterate the earlier efforts. The earliest paintings seemed to be orange-red, then moving through shades of purple-red to the clear-cut brick reds which appeared to be the most recent efforts. Although the paintings have not been tampered with, rain, in a number of cases, has blurred the earlier designs and sheets of colour, having run off designs higher up in the rock, form the background for later efforts. There is also the possibility that chemical action may have altered the composition of the colour.

The designs have all been carried out in a thick paste which has completely smoothed out the unevenness of the rock except in the case of the tentatively proposed earliest group of paintings; it would be possible to remove a design with a sharp pointed knife. The material is fairly fast and is not readily removed with a damp rag.

Although most of the designs are within the reach of a standing man and within the scope of a drawing arm, a very large number are well above the reach of the tallest man or beyond reach of the side of a rock shelf. A further number are low on the ground and it would be safe to say that convenience to the individuals making them is obviously not a factor in the choice of drawing sites.

The majority of sites were not habitable but were usually adjacent to living caves which all showed extensive smoke stains. The impression was made that the painters preferred not to decorate their own cave-homes, but to have them nearby in places where they could not live and where they were easily accessible nevertheless. Similarly there is little space in front of most of these designs for even the smallest gathering of people.

The author climbed an enormous number of hills in his spare time in order to find this small group, and it was apparent that these cave-painters preferred an inferior cave at the bottom of a hill to a really excellent one higher up, so that anyone interested in adding to this list need do no more than circle the bottom of hills as there is no doubt at all that double this number of sites could be found with comparatively little effort.

MWANZA DISTRICT
DISTRIBUTION OF
ROCK PAINTINGS.
MWANZA
KISSESA
TO MUSOMA
USAGARA
TO SHINYANGA
SMITHSOUND
N
S

No sensible suggestions as to their origins have been put forward by Africans, and only a tentative dating can be suggested. The first point to remember is that all caves in these hills, no matter where they are situated, are extensively smoke stained, whereas only the lower ones have paintings. The majority of sites are very near to, or immediately adjacent to the Lake, and also a number of these sites have been and are still being used by Wasukuma smithies, who seem to prefer to carry out their more suspect activities in the deepest privacy and which possibly explains the smoke stains over some of the designs.

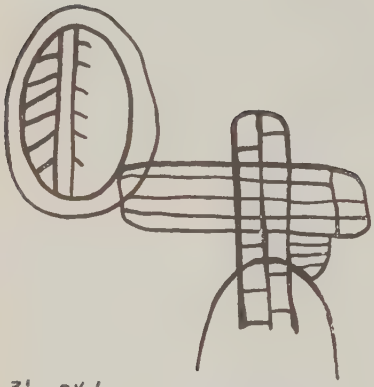
Possibly the lower decorated caves represent the earliest occupations for people who required protection only from wild animals and the elements, and who wished to live near their rudimentary fields. Broken pots found in these all appear to be of recent origin. The upper undecorated caves represent an occupation within historic time when the people required protection from raiding parties rather than animals and who had to abandon their usual homes and fields. In these seemingly newer caves have been found circular grinding stones such as are now in use and even a lump of unworked clay for pots. Following on these ideas and the fact that the oldest men consulted had no suggestions as to when and where they were executed, it seems likely that the paintings are not later than the mid 19th Century.

Several caves have rock floors fitted and levelled off with detritus from within and without the cave which would reward a qualified excavator who could spare the time to investigate. Although a thorough search was made all round these sites, nothing was found other than smelting waste, broken sherds etc., although stone chips and grinding stones of a different design were especially sought for.

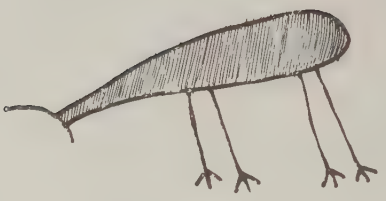
The technique of painting appears to be of the crudest with very few, if any, lines less than an inch across and the whole lot probably applied with a stick rather than the fingers as the lines have well defined edges and are not blurred. The paint appears to be ochre, possibly with a base of animal fat and it is interesting to record that the author, while enquiring into place names to the north of the area involved in this series, found a small deserted site called Mangula in the Mbarika Baraza area which was referred to as the "red ochre village" from deposits nearby, and pieces of ochre produced and ground in water approximated fairly to the colours of the designs. The nodules of colour seemed to be of an iron-stone origin and required considerable effort to grind down. Animal fat with lime forms a very permanent medium which in Burma has resulted in the delicate plaster covering of the older pagodas surviving when modern concrete plastering has cracked and fallen off.

The designs, except for the crude animal representation in No. 15, are mainly concentric circles or dots and straight lines. There are no jagged or radiating lines, other than hatching out from a circle, even the simple design to represent the human hand is absent. It is possible, with imagination, to find a sexual basis for a number of the designs, as indeed it would be possible to recognise the sun and fighting shields amongst the others, certainly nothing immediately strikes the viewer and an exact analysis of

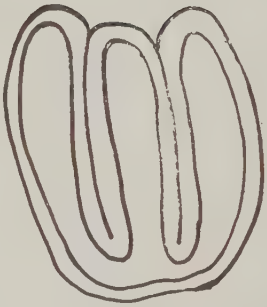
PLATE I.



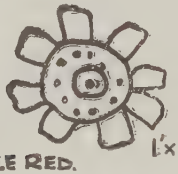
3' x 2½' RED WITH PURPLE TINGE
SITE 12.



18" x 10" DULL RED
SITE 15



1½' x 1' RED AND PURPLE RED
SITE 3



PURPLE RED. 1'x1"

1'x6"

1'x6" RED.

1'x6" PURPLE

SITE. 3.

the designs will have to await the expert who has the ability and patience to disentangle the superimposed designs. However it would be safe to say that they are not so crude as the designs recorded from Bukoba and Bahi and nothing like so developed as the drawings from the Central Province. Obviously these paintings are not representative of anything approaching so-called bushman art, but rather imaginatively simplified drawings requiring the services of a psychologist rather than an art critic for their interpretation.

Only two of the sites, Nos. 3 and 12, are worth preservation, but it is doubtful whether protection by law would give them any greater protection than their present inaccessibility; the one being on a small uninhabited island and the latter on a rock shelf above the ground; there is no likelihood in either case of smoke ever blackening the surface. Certainly should undue attention be drawn to them by legislation, the more likely becomes the possibility of vandalism from those wishing to add their own efforts to the collection.

Rock Paintings.

The following short descriptions refer by their numbers to those on the sketch plan attached to this article.

Nos. 1 and 2. Bukumbi Baraza, Mwabagole Parish, Mwagimwagi Hill.

These can best be reached from the main Mwanza-Shinyanga road following the track to the Mwabagole ginnery for about five miles and stopping at the Bukumbi Sisal Estate, from where they are 15 minutes walk to the south.

Neither can be classed as rock shelters, merely being the sheltered sides of large boulders. *No. 1* shows a number of crude designs ostensibly of three periods, two of which directly overlie each other in one place and the paint in each case being still present and of a purple-brown or dull red. It has been used in the past and will be used again seemingly in the immediate future as a privy place for the activities of a somewhat suspect smithy. The remaining, and presumably earlier markings on two faces of the same rock, are very faded in the palest of orange-browns. This is possibly a living site. *No. 2*, which is some two hundred feet from the first, shows a few faint markings barely discernible on the relatively exposed face of a small boulder and is definitely not a living site. Neither are worth the visit of anyone less than an enthusiast.

No. 3. Mamba Island, Smith Sound, south of Stuhlmann Sound.

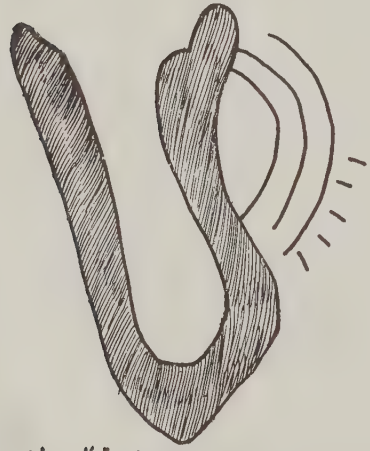
This complex and large group of paintings is on the south face of the rocks comprising a very small islet which could only give a satisfactory home to lake birds and to a few shelterless humans. It is to be reached by boat direct from Mwanza.

The paintings form a solid panel of about 15 ft. by 5 ft. in innumerable shades of red, overlying each other in a challenging tangle of concentric

PLATE II.

2½' x 1' VARIOUS RED SHADES
SITE 3.

18" x 12" DARK RED.
SITE 3.



2' x 1½" DARK RED
SITE. 3.

2' x 2' BRIGHT RED.
SITE 4.

circles, radiating suns and thick barring. There has been some blurring from rain but they are all in a remarkably good state of preservation.

A further small group of presumably much older markings exists lower down and some thirty feet to the left, partially blackened by smoke and of a more orange colour. The second arm of the island contains no signs of markings.

Despite the remarkable clarity of these daubings, there is no rock shelter on the islet for sheltering any permanent visitor and no floor that might reward an excavator. They are locally reported to have been made by the Germans for unspecified reasons.

All the paintings are highly stylised and several visits and innumerable angles of inspection were unproductive in making them even at all representative. This site is well worth a visit as being the most spectacular of all the Mwanza sites, though doubtless disappointing to anyone seeking more representative paintings that could be classified as art. Visitors in the next year should be careful of bees near the main group which vigorously stung the author, but they can be seen quite well without disembarking from a boat. This site is definitely not immediately related to a living site.

No. 4. Kamata Island, Smith Sound near the coast of Urima Baraza.

This small island is only about fifteen minutes sailing from No. 3 and is about three acres in area with some room for orthodox inhabitants. The west face of the island comprises a tall rock wall extensively blackened by smoke and with a flat floor beneath it which might reward an excavator.

The paintings are on the north side in a far less prominent position and must have called for considerable acrobatics in the worker and comprises an oblong, radiating sun and what might conceivably be a phallus in rich red paint and immediately adjacent. The impression is reached here that the maker preferred to paint away from his living site.

No. 5. Mbarika Baraza, Kibura Parish.

This painting is on the north side of an exposed boulder on this peninsula, thickly screened by bushes, comprises three faint red designs and is not worth a visit. This is definitely not a living site and its purpose on this rock, in preference to larger and more protected sites, is unknown.

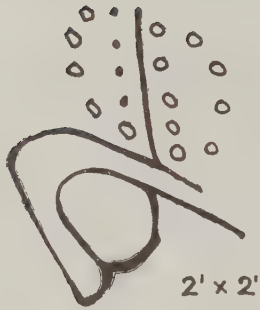
No. 6. Mbarika Baraza, Kibura Parish.

This fairly complex group, best reached by boat and followed by a short walk, is on the wall of an almost ideal rock shelter which unfortunately has obviously been used regularly as a smithy in the more recent past, but presents a broad working flooor which might reward the excavator.

The paintings stretch from eye level, where the smoke blackening has faded out, to a height of ten feet and for a breadth of ten feet, which in

PLATE III.

2' x 1' RED BROWN
SITE 7.



2' x 2' RED BROWN
SITE 3.

8" x 12" RED PURPLE
SITE. I.

12" x 4"
DULL RED.
SITE. I.

itself poses an interesting problem. The designs are complex and interrelated in the usual variety of dull reds and include several forms of concentric circles on a larger scale than elsewhere. Some faded markings can be made out on the opposite rock face. In all probability the painter lived here as there are no alternative caves of anything approaching the same dimensions anywhere in the neighbourhood. There are apparently no local tales as to the origin of this group.

No. 7. Mbarika Baraza, Bugisha Parish, Bugisha Hill.

This small group is on a boulder to the north of the track from the Urima chief's house at Bugisha to Mbarika just before it descends the steep hill in the bush. There is one rectangular design in dull red paint and a number of faint designs elsewhere in pale orange. Although there are some signs of smoke blackening, this place could never have been used as a rock shelter. It is best reached by boat from Smith Sound, but is not worth a visit. This hill is a mass of boulders and no reason can be thought of for choosing this indifferent site in preference to a number of far more suitable positions. An old man alleges that the main design was an imprint of his father's hand to show his height, which cannot be relevant.

No. 8. Ussukuma Baraza, Nyangguku Parish.

This solitary faded mark in orange paint is situated on the outside wall of a complex group of large boulders containing a large cave, immediately adjacent to the Kissessa-Fela road on the north side. Not worth a visit but the cave floor might possibly be worth investigation.

No. 9. Bukumbi Baraza, Mwabagole Parish, Mwagimwagi Hill.

A rock shelter on the west face of this group of large rocks. This site is particularly interesting as on the buttress of the rock the designs have been so thickly overlaid that the paint has formed a layer over the whole surface, and can be taken off with a knife. The designs vary from dull purple to dull red and are overlaid in some places. The site has a floor which might be worth investigation and can be reached in fifteen minutes from the main Mwanza-Shinyanga road. The local inhabitants do not appear to have noticed them before and give no explanation of their origin.

No. 10. Bukumbi Baraza, Ilalilo Parish, Masumli rocks.

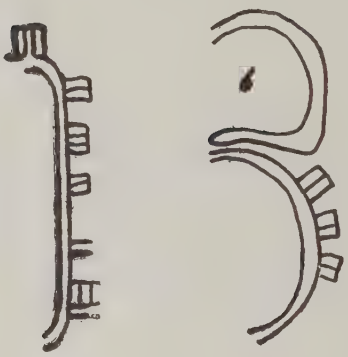
This cave site, reached in 20 minutes' walk to the north of the Fela-Usagara road, has a few faint red marks in two places. However, the cave has an extensive floor in which pottery and quartz, not found locally, can be found below the surface. The cave is used periodically for some slightly suspect Sukuma dances. Not worth visiting.

No. 11. Bukumbi Baraza, near to Kikongo pier on the Lake shore.

These marks are situated behind the chiefs' graveyard at the lake end of the Usagara-Kikongo road facing inland. They are on a slightly sheltered rock immediately adjacent to extensive habitable caves facing the

PLATE IV

2′ × 1½′ BRIGHT RED
SITE 12.



3′×3′ 3′× 1′
PURPLE RED SITE 11.

18″ × 18″ ORANGE-RED.
SITE 12.

2′ × 1′ PURPLE-RED.
SITE 12.

water. These designs represent a new type, although executed in the same red toned pigments and crude style, approximately very fairly to inscriptions. There are no local details as to their origin.

No. 12. Bukumbi Baraza, Chole Parish, Nyankira.

A large and complex group of paintings immediately to the rear of a pile of rocks on the foreshore and best reached by boat. The paintings are on an exposed rock-face about ten feet up from the ground and cover an area 10 feet by 6 feet; some of the paintings are beyond the reach of a normal man upwards as well as sideways on the ledge. A small boulder on the shelf appears to have been used for mixing the paints. There is no cave or shelter in the vicinity suitable for habitation and very few smoke stains on the surrounding rocks. The designs are clearly delineated and conform to the general style of the whole series, including a concentric radiating circle and two drawings of what might be shields. There are no local stories as to their origin. This group is well worth a visit.

No. 13. Bukumbi Baraza, Kashishi Parish.

A small and insignificent group of three faded drawings on a partially sheltered rock-face at the base of a hill. It is situated not far from the path from the Bukumbi R.C. Mission to Mwabagole. Not worth a visit.

No. 14. Mwanza Baraza off Mwanza town.

A small group situated on a small islet half an hour's boat run from Mwanza on the outside and inside an habitable cave, which has been extensively blackened by smoke. There are some half dozen faded designs including the inevitable circle with radiating lines. Not worth a visit.

No. 15. Mwanza Baraza off Mwanza town.

This group of faded designs, but distinguished by the only animal drawing found in the series, is found in the middle of the furthest large island about half an hour's run from Mwanza by boat. Yet again the designs are outside the extensive habitable caves immediately to one side, and low down on the rock face. The animal design might possibly represent a rhinoceros. There is a possibility that excavation might yield results here. This site is worth a visit.

Nos. 16, 17 and 18. Bukumbi Baraza, Chole Parish, Kimirasozu island.

This small island contains many paintings which for convenience have been recorded in three groups. One group is on a rock rising directly out of the water and presupposes a lake level several feet higher than at present if the painting was done conveniently from a boat. All the designs which conform to the general pattern of this series, are on exposed rock surfaces. But there are signs, as elsewhere of an older series of markings which are barely distinguishable. There is an extensive cave on the island filled with detritus worth excavation. This site is worth a visit.

NOTES ON THE FLORA OF KILIMANJARO

By D. N. Sampson

These notes are based on observations made during visits to the mountain in September, 1951 and January 1952. They are not to be regarded as a study of the flora but may be of interest to those who have visited or intend to visit Kilimanjaro.

In September 1951 a number of days were spent at Mawenzi hut, (15,000 ft. approx.) and a collection was made of plants in its vicinity. This collection was sent to the Coryndon Museum, Nairobi, for identification. Although it is unlikely that the following list represents the complete flora of this ecological zone, it is comprised of all varieties excepting grasses *seen* in the vicinity, and may therefore be regarded as typical of the zone. The list is as follows:—

Senecio purtschelleri Engl.

Senecia volkensii O. Hoffm.

*Arabis alpina** *L.*

Dianthoseris schimperi Sch. Bip. ex desc.

Helichrysum† *fruticosum Vatke var. compactum Vatke.*

„ *hoehnelii Schweinf.*

„ *newii Oliv. & Hiern.*

„ *meyeri-Johannis Engl.*

Occasional plants were noted on Mawenzi up to 16,500 feet but above 16,000 feet these were rare, and the upper margin of vegetation is more correctly expressed as between 15,000 and 16,000 feet.

Much the most interesting observations, however, were made in January 1952, when a camp was established on the crater rim of Kibo, and several days spent in examination of the Ash Pit Crater. This is the subsidiary crater inside the main crater of Kibo and is between 19,000 and 19,300 feet above sea level, excepting possibly the floor of the central vent, or "Ash Pit" itself, which may extend a little below 19,000 feet. Although the glacier ring round the top of Kibo is no longer complete, for all practical purposes it may still be regarded as so, because at no season of the year is it possible to reach the inner crater without traversing either ice or nevée.

Plants were observed in two localities in the Ash Pit Crater — one on the eastern wall of the Ash Pit itself, and the other on the scarp slope of the crater on the north.

*The common white single *arabis*, well known in English gardens.

†Commonly known as the everlasting flower.

In the Ash Pit a short way down the slope on the eastern side specimens of *arabis alpina* and unidentified mosses were observed round the mouth of a fumarole. This fumarole appeared to be emitting steam only, and was the only one seen in this immediate locality. The nearest active group is lower down on the south-eastern side of the Ash Pit.

On the northern side of the Ash Pit Crater a line of active fumaroles exists a little way below a conspicuous rock pinnacle. The fumaroles would seem to be of recent origin and are depositing sulphur. On a sloping shelf above them several specimens of plants were seen and recorded as *arabis alpina, senecio purtschellert,* and *dianthoseris schimperi.* All these identifications must be regarded as provisional as no specimens were collected (to avoid the destruction of this rather unique ecological zone).

Interesting points besides the height (19,200 — 19,300 feet), are the utilisation of the local amelioration of climate in the vicinity of fumaroles and the short time in which advantage has been taken by nature of these conditions. The evidence available as to the start of this phase of fumarolic activity on Kilimanjaro suggests a very recent date, in fact almost certainly in this century, and probably not much more than twenty years ago. The second group of fumaroles has probably started within the last ten years.

The problem as to the origin of the seeds is interesting because although the seeds of *senecio* and *dianthoseris* could have been carried by wind it would seem unlikely that the small seeds of the *arabis* could have been blown the distance and height required. The only representatives of the animal kingdom which visit this place, that I know of, are the pied crow and man, and of these neither are frequent nor particularly likely hosts, unless the latter by intention rather than accident.

TRIBAL HISTORY AND LEGEND

THE HISTORY OF THE ZIGUA TRIBE.

*Translated from the Swahili of Selemani Kiro by Petro Sh. Mntambo**

I, Selemani Kiro, write this history as narrated to me by the elders of the Handeni District. I am fortunate to possess many stories. In the years 1922 and 1924 I had one District Officer named J. H. Wellech, he travelled extensively in this District. He liked native dances and nearly all citizens in this District knew him by the name of "The Father of Drums" (Sachangoma) because wherever he went he asked the chiefs and sub-chiefs to bring their people and dance their different dances before him.

My chief duty was to accompany him in his District tours looking after his sick-porters and administering vaccination against small-pox to the citizens as we toured. He asked me to hold palavers with the elders at each camp. Although our conversation with these elders was on different topics and stories, yet I liked very much to discuss with them the traditional history of our tribe, and so I have preserved many important stories.

Today I am eager to give the history of the Wazigua Tribe. My aim is not to compete or to be praised that I know much, but because it is an old important story. I want anybody who knows more than this to add to it, so as to have a complete and synthetic story of our tribe.

Ladies and gentlemen, let anybody among you who wants to add to or correct me wait until I have finished this narrative, for he might thereby get the crux of the story and add to or correct me more accurately and assuredly.

Every human being knows that there is both truth and falsehood in stories. Nevertheless, with us Africans our truthfulness is found in our thoughts and proverbs or examples. In my narrative I will give an example from which readers may get the truth of this history.

The Wazigua, Wanguu, Wasambaa and Wabondei, at the beginning were all one tribe, they were all known by the name of "Wazigua".

I was told that the Wazigua came from the north. In olden days they travelled from the farthest northern countries and came to the country of the Wagala (Habeshia). There were three tribes: Wazigua. Wabboma and Wankodongo. These three tribes lived long in amity in the land of the Wagala. Their chief occupations were pastoral and agricultural.

FOOTNOTE

**Translator's Note :*

The Author, Selemani Kiro, is an Mzigua who has worked as an urban Sanitary Inspector for about 30 years; he is also a member of the Handeni Local Native Council.

He has retired from Government service and is now a shopkeeper, but also engaged on development schemes in Handeni District.

(This account was originally published in "MULI DYA ZIGULU NA NGULU", the local news sheet of the Handeni District, and is reproduced here by courtesy and with the assistance of the editor, Mr. Petro Mntambo.—Ed.).

The king of that country was an Mgala, a native of the land. It is said that one day the children of the Wazigua, Waboma and Wankondongo, while shepherding together, took their animals together to water. As their cattle were about to drink, the Prince of the Wagala arrived with his cattle and told them to give way for his cattle to drink first. The children of the three tribes asked the Prince to wait until theirs had quenched their thirst. On hearing this, the Prince started to abuse them and fighting ensued in which the Prince was mortally wounded, so that his cattle returned home without him. However he managed to reach home and to explain his tale of woe but died the same night. The King of Galaland did not thnk this a childish quarrel, but without enquiry into the matter started to fight with the three tribes.

I do not know with what weapons they fought, my narrator of this story did not inform me of that. As the war went badly for the Wazigua, Waboma and Wankodongo, they decided to escape from Galaland. This is how they escaped:—

While the Wazigua and Wankodogo were in battle with the Gala King, the Waboma escorted the women, children and cattle of all the three tribes for a journey of from 20 to 30 days. Then they made a camp and cultivated, planted and harvested, while the two tribes were slowly resisting the progress of the Gala King in battle. When they reached the camp of the Waboma, the Wazigua and Wankodongo this time took the turn of escorting the women, children and cattle for a journey of 20 to 30 days, while the Waboma, left with sufficient food, took charge of fighting and resisting the advance of the Gala King. So as the war continued the Wazigua, Waboma and Wankodongo adopted this method.

It is said that when it was the turn of the Waboma to fight, they journeyed for only one day to prepare a camp for a defensive attack upon the Wagala who were very near, and they left the Wazigua and Wankodongo packing behind. They passed the night at this camp awaiting their turn of fighting as the Wazigua and Wankodongo passed them next morning with the Gala army in pursuit.

It is said that the day the Waboma journeyed to prepare the defensive camp, they crossed a very wide valley overgrown with grass and trees but without water and camped on the other side. They did not think it to be a river. While the Waboma awaited their turn to be attacked there fell a heavy rain all through the night, in the morning that valley was flooded like a lake or gulf of the sea. When the Wazigua and Wankodongo reached this river they were amazed at how their kindred Waboma had crossed this wide river. They shouted to ask them how they had crossed this river, and they assured them that when they had crossed it it had been dry, it had only been flooded by the rain which fell during that night. Then the Wazigua and the Wankodongo with the women, children and cattle journeyed upstream along the side of that river hoping to find a ford to cross over and contact their kindred Waboma, but they found none.

When the Gala army reached this river they were afraid to pursue the Waboma on the other side of the river lest the Wazigua and Wankodongo

who had journeyed upstream should return and attack them from the rear. This became the end of their battle, and the Wagala went back to their homes.

It is said that the Wazigua with their kindred Waboma and Wankodongo, with all their flocks and herds, followed this river until they came to Kondoa-Irangi, where, it is said, they lived for 100 years. In those days their King was called "Mgalawe". Up to this day Zigua women sing of him in their dances, saying:—"To be a war refugee brings luck. Look! Mgalawe is leading a child like a wife." Meaning that to be driven in war has some luck, Mgalawe sent his child ahead like a wife, when he was driven by the Wagala.

Mgalawe begot Sekalingo; it is said Sekalingo ruled from Kilimbogo near Kibaya the whole district of the Wamasai. At this time the Wazigua and Wankodongo were journeying towards the coast in search of their kindred Waboma. Up to this day the Wazigua sing of Sekalingo, saying: "Come down, Mkunde, come down! I know not when I shall die, leaving my cattle behind me, so come down (and take them) Mkunde. Sekalingo, do not let me be troubled."

It is said that King Sekalingo had one sister whose name was Mkunde. Mkunde was married and lived with her husband in the Nguu mountains. King Sekalingo was very rich, when he fell ill he used to call his sister Mkunde; hence saying, "Mkunde come down."

Sekalingo begot a daughter named Mchemno, who ruled after the death of her father Sekalingo. It is said that during her reign it was so peaceful that even a leopard dared not catch a goat. Up to this day Zigua hunters, when in difficulties and overtaken by night in the bush, and eventually forced to pass the night in the bush, say: "The bush belongs to Mchemno: what harm can come to us?" Meaning all this bush belongs to Queen Mchemno we will not experience any danger. People still remember the faith of their Queen to this day.

Mchemno begot a daughter named Musi of this daughter, it is said that her aunts lived in Mbwego, and her mother was ruling in Jaila or Ngugwini. This princess was very beautiful and dandy, as people were afraid of the Queen, they did not propose to her daughter, but they loved to behold her beauty. One day princess Musi went to see her aunts in Mbwego, where the small tribe of the Wankodongo lived. While staying with her aunts princess Musi met with an Mnkodongo who fell in love with her and under private agreement between the two, the Mnkodongo ran away with princess Musi, and immediately news was spread that princess Musi was lost. When it was discovered that she had been taken by an Mnkodongo, the Wazigua made war with the Wankodongo. Because the Wankodongo were a small tribe, they were conquered and they ran away to Tabora. Now in their tribal worship, the Wazigua sing:—"Musi and the Mnkodongo where did you meet? We met at Mbwego". Meaning, "Musi and the Mnkodongo, where did you meet, when he ran away with you? We met at Mbwego". Our kindred Wankodongo left us in this way and we maintain customary jesting (Utani) to this day.

It is said Musi begot Mganga, who is "Seuta". Seuta is a name given him by the people. When Mganga was 12 years of age, his mother died, and the people enthroned him. In that year Mganga dreamt that all his people should make bows. It is said that strangers who settled in this country showed the Wazigua how to make bows and arrows. The people said, "This is Mganga Seuta". In the course of years, the Portuguese came from Mombasa and fought with the Wazigua. The Wazigua met the Portuguese on the Ruvu River and a hard fight ensued. The Wazigua fought with bows and arrows, whilst the Portuguese fought with muskets. The Wazigua had never seen muskets. They came back to their King Mganga Seuta and said to him, "Master, this war is too difficult, our antagonists are red and they possess a rumbling weapon which emits bullets passing over our heads". King Seuta said, "Now let us use a stratagem, all the people must desert their villages and live in the bush, and every deserted village must be burnt down. When the Portuguese search for the natives and not find them they will desert our country on account of hunger and other incidental troubles". The Wazigua followed this plan. The Portuguese suffered from starvation and other difficulties, and finally found it difficult to live in a country possessing no natives. They proceeded to the south of Handeni. This war was known as the "Break-the-grinding-stone-war", (because when the Wazigua deserted their villages they broke their grinding stones, in which they used to grind their corn). The Portuguese have left their marks at M-mbagwi; in 1910 or 1911 a cannon was found there and the natives say that it is of Portuguese make; the Germans put it in the District Office of Handeni, where many people have seen it. After the Portuguese have departed, King Mganga (Seuta) called forth his citizens to come back to their villages and some to build his capital. But his citizens became indifferent and refused such orders from their King. This was the end of that great and historic period for the Wazigua.

The Wazigua began to spread far and wide. They took the Masai Steppe, and in that time there were no Masai but Wandorobo in those steppes. When the Wazigua became a big tribe, some of them occupied the Nguu mountains. Then those who lived in the steppes made a joke about those living on the Nguu mountains, saying that they were living upon the mountains as people living on a ceiling of a house. Those who live on those mountains are known today as "Wanguu". Some of these Wazigua were called "Wasambaa", because they had spread far and wide on the mountains; others were called "Wabondei", because they lived in the valleys. The Wabondei are a Zigua group who saw and liked the valleys of Bonde and occupied these valleys for farming, and they were called Wabondei. Another group is that of the Wajumbi, who are a branch of the Wanguu.

These legends often displease people, especially when they change the names of people or tribes. Some do not like to be called Wazigua, they hate it. I ask for their pardon, all who may be annoyed by this story; my chief aim is to get the crux of our traditional history, and shall be pleased to see it corrected or added to by others.

The truth of a story is in the listening of it first, then weigh and find its truth or falsehood. In olden times we heard that many Wazigua moved

from this country in the famine of "Eat the skin", (because there was no food of any kind, people ate hides and skins which, in prosperity, they used as mats). This seemed only a story, but today we find its truth in corresponding with the other branch of our tribe living in Kismayu (Mogadishu).

Today Mr. Bakari Mdoe says that an Indian named Almeida told him that he read in a Portuguese book about the Kilindi mountain and the war between the Wazigua and the Portuguese. This gives me an idea that any Mzigua who possesses an Indian friend who has read or possesses a Portuguese book can know better the story of Seuta.

Many people speak differently regarding the story of Seuta and I hope to get many explanations and ideas regarding him and other incidental matters.

Gentlemen, here ends my story, narrating is like a cutting of sugarcane ready for planting, when one plants it, another pulls it up. May the spirit of Seuta rest in peace.

SEEN IN THE OPEN

1. Nyanza Lion Hunters.

A lake peninsula on Victoria Nyanza (or See in the German records) retains a mass of African wild life to please the eyes of game observers. Lions are hunted by the natives in their expanding activities encouraged by Government. Tsetse reclamation sees annual bush clearing and new settlements whose cattle are menaced by the two animals, lions and tsetse flies. Soil erosion is feared, following upon bush clearing and contour ridging is done by natives as a counter measure. Airplanes are to try dusting the fly areas in 1952, using a powerful insecticide which in other parts of Victoria Nyanza has been found very effective.

The lion hunters are not publicised as are the Masai. They operate in small teams of threes or fours. A party I met recently had five brown hunting dogs with them. They were armed with long shafted formidable spears. The blades were nearly two feet long and about two inches wide. Arrows, poisoned with a glutinous vegetable extract, obtained from the Masai a hundred miles distant, are also used.

The modus operandi is to track a lion into it's day-time lie-up, to walk round the cover or thicket to make sure it has not emerged and then to stealithly locate it. Unwounded lions, lethargic after night meals respond to such intrusion by an uneasy fidgetting, say the hunters. They continue to use the cover, being loath to break into the open. Dogs if used would embarrass them considerably, distract their attention from human intruders. I remember native hunting youths with me in Tanganyika's southern wilds very cleverly imitating the cries of African hunting dogs or hyceons and causing a grunting pride of approaching lions to retreat from their game hunt.

The trio of practised hunters have their leader, their number two and their number three. While one of this team faces the roused, embarrassed lion, another comes behind it and throws or thrusts his spear into its back. Instantly all three add more spears or arrows. It is very simple they say. To me it sounds easier than the Masai method used in the open when a single Moran approached step by step to a snarling, tail lashing lion, until it charges him. He awaits his time, and receives the leaping cat on his carefully poised and well held spear with its long iron rear spiked into the ground. The lion is impaled on the three-feet long heavy, narrow blade, often bent in the beast's body with the strain of reception.

The lake peninsula hunters are known widely in their settlements. When a kill takes place a series of dances to their honour are instituted. Relief at the elimination of a human and bovine menace expresses itself with drums and the abandon of a communal ngoma or drum dance. Rewards are paid to the lion killers in the form of cattle or money. Admirers and friends give a sheep or two or goats to these heroes.

The skins or parts of skins and claws, teeth, strange balls of matted hair found in the stomachs, gullets or intestines and sometimes ejected from the throat of a wounded lion, are sold to neighbouring tribes, especially the Sukuma. Professional lion killers are issued with government permits which they carry into the game fields to distinguish them from the game poachers who are a constant menace to the wild creatures of the veldt. Snares, nets, and arrow hunting are the methods. Pit-falls are not encountered as in other parts of Africa.

R. de la B. B.

2. **Crocodiles.**

The rivers, lakes, ponds and tidal creeks of the Rufiji coastal riverain district in Tanganyika have been fished systematically for ages. The Bantu peasants dry or toast the communal catches on stick racks or tables over wood fires and carry off loads in stick or reed wrappings to sell to the natives north. Fish harvests pay their taxes.

Crocodiles take their toll of these intrepid men, who enter deep water to rig Kiddles or stick-barriers against which a reed net is pushed down stream from a hundred or two yards by a party of men, accompanied by a helping dug-out canoe.

These heroes are naked except for strips of cloth slipped fore and aft around a waist-band of strong river grass. In parts of the delta creeks, where such grass does not grow, bunches of leaves are worn in an improvised girdle.

Crocodiles are not the creeping reptiles their lethargic habits lead folk to believe. They are scientifically classified as lizards and on occasion move and leap as quickly as lizards.

A game warden in South Africa reports he saw a crocodile leap on a donkey's neck and kill it far from the water. Another reliable observer saw a sluggish crocodile in a river "flash up a steep bank" and catch a bush-buck, carry it off into cover to devour it and not take it into the water as might be suspected.

These recorded incidents corroborate the river incident reported by a Tanganyika medical officer who saw a large crocodile pursue a small canoe in whose stern a frantic fisherman paddled to the shallows near a sand-bank, leaped out and ran upon the acre-size river island. Horrified spectators then saw the great saurian race upon the sand and hunt down his human victim, finally knocking him down with his tail. Such was the "kill" carried out before the eyes of men unable to help. No one had a rifle.

Crocodiles were regarded by Egyptians as harbingers of the life-giving fresh-water spate coming to the brackish delta waters of the Nile from Central Africa. They were kept in captivity and fed sometimes with human sacrifices. Some were adorned with gold bangles and worshipped. Their beautiful green segmented skins with shades of yellow-white underneath, varying to olive green and sooty hues above must have contrasted very strikingly with the gold.

The morning sun shining in the opaque green iris of a crocodile's eye made early Egyptians regard it as an emblem of solar blessings. In India, too, sacred crocodiles have been ceremoniously fed with pure white fowls brought by worshippers clad in white robes. So that some good or blessing was also associated in that land with crocodiles. Perhaps that is devoured carcases which might befoul waters and bring disease. The Kikuyu tribe in Africa revered and feared hyenas who ate their dead thrown out to them, much as Parsees put out their dead to be picked clean of flesh by vultures.

The use of their skins for leather has caused a great reduction in their numbers in East Africa and the European, Asian and Africans, who shot, hooked or trapped them have learned much about them. Many mistaken notions have gone by the board. Their scaled skins are easily pierced by shot, bullets or spears. They must come to the surface at frequent intervals to breathe. They may be drowned by weighted snares holding them below the surface. They are attracted irresistibly by smelling offal and will thus be drawn into snares or stick "crushes" such as are used for branding, innoculating or examining cattle. Stupidity personified.

Crocodiles lay about fifty eggs in small pits near water and cover them over with sand. They do this in bushy or grassy places and they take turns watching them, buarding them from monitor lizards and other egg-thieving creatures including mongooses. The water-dikkop, a brown plover-like bird, is believed to raise alarm to warn crocodiles of thieves near the nest. Hunters and naturalists agree upon this. One day I saw two dikkops quite close to a monitor or Kenge running round scolding and making much noise. Perhaps their own nest was near.

The baby crocodiles squeak when still in the hard leathery white eggs about the size of geese eggs. A kind of chisel grows on their heads at that stage which helps them to break out. This growth then disappears in a few days.

The newly-born youngsters have sharp claws and can run up trees to escape enemies, which include grown crocodiles. They grow very slowly, just an inch or two every year.

Recently some one wrote in the press that gramophone music attracted crocodiles. I remember that the rhythmic noise of a motor boat engine charmed a big crocodile lying in some mangrove root stems on the mud shore of a tidal creek in Rufiji. The huge creature stood up on all four legs a few feet from the boat which was trying to make headway against a bank-side channel of ebb-tide.

They walk long distances overland, sometimes in search of new waters and sometimes because lakes, ponds and swamps dry up. One appeared in Lake Duluti in a deep crater near Arusha, with much stiff climbing to its rim. It was eating water-birds and did not interfere with a European woman-settler who was taking her evening swim.

Like lions, crocodiles in some places never touch humans. Fishermen enter these waters with no fear. Other places have many victims every

year. It is believed there are three different species of crocodiles in Central Africa. One kind has discs of bones in the belly skins which makes the skin of no value for leather.

There have been two cases in recent years of Bantu heroes biting crocodiles who had seized them and causing them to let go their would-be victims. One was a woman fording a river in Rhodesia with several others who witnessed the incident.

Crocodiles will pull a rhinoceros into the water, drown him and eat him. Sometimes they get hold of elephants' legs in water or swamps. Twice have such stupid attackers been killed and stuck up in trees by elephants in the Rufiji. They do not attack hippos who can easily bite them to pieces with their huge tushes. Even baby hippos, set in a nursery pool by their mothers before my eyes in Rufiji, leaped in fun on a ten-foot crocodile who came to sun itself on the pool bank and sent it splashing away. My men leaping into the water to retrieve birds I shot, made a dozen crocodiles waiting around to eat the dead hippo we were skinning, scurry off in a foaming wave.

The spare-part teeth of crocodiles are in the hollow roots of every tooth. The hard sharp teeth, adapted for seizing fish, are brittle and break on hard-bones of animals or on shell fish. Up grows the spare tooth!

R. de la B. B.

3. **Avian Housing Shortage.**

About five years ago a pair of swallows built their nest with the long entrance tunnel constructed of mud pellets under the eaves of my house. They reared a family and departed. A month of two later a Pied Kingfishers took up residence and in order to make the nest suitable to their requirements broke down the tunnel entrance and burst a hole in the back wall enabling the hen to sit with her tail protruding through the back and her head through the entrance. They brought up a family of one very noisy chick and departed. Shortly afterwards the nest was occupied by a pair of black-and-white swifts who adopted it to their use by breaking down the upper portion of the walls so that it became a cup-like structure adhering to the wall of the house. They lined the nest with feathers, so that it presented a most untidy appearance, reared a family and departed. In the following year the swallows returned and rebuilt the nest, brought up their family and left to be followed again in succession by the kingfishers and the swifts. This cycle continued until this year, when the nest could no longer stand these continual structural alterations and fell off the wall altogether. I do not know if the practice of three different birds using the same nest is usual.

G.H.

4. **Andersson's Bat Hawk** (Machaerhamphus alcinus anderssoni).

In May, 1952, a friend drew my attention to two very dark hawk-like birds that appeared to be nesting in a large eucalyptus tree near the European Hospital in Dar es Salaam. The nest was a large one, made of sticks,

some of which seemed to be nearly half-an-inch in diameter, placed flat on a large lateral branch which issued from the trunk about 60 feet up. No attempt whatsoever had been made at concealment and the nest looked as if it might be blown away in a storm, since it was not securely fixed in a fork of the tree as one would have expected, but was merely resting on the branch. However, it was a fairly solid and substantial structure—not unlike the nest of the fish eagle—and we never get very high winds in Dar es Salaam.

Identification of the bird to a mere amateur proved a little difficult. Two birds, presumably a male and a female, were seen at the nest. They were obviously "hawks" of some kind, both were very dark brown—almost black—in colour, with practically no other distinguishing characteristics on a first examination except that one had a rather dirty-white abdomen and both had large bright-yellow eyes. On consulting Jackson's "Birds of Kenya and Uganda" I could find nothing corresponding. The nearest thing did seem to be Anderson's Bat Hawk but the birds observed were certainly not "chocolate-brown", nor did they have "white below with some brown markings on the chest and well-marked white spots on the wings and tail". They looked like the illustratio of *machaerhamphus* in Austin Roberts' "Birds of South Africa" in general shape and appearance but not in colour. They were not brown but very nearly black

Then the same friend produced Bannerman's "Birds of Tropical West Africa", with the added information that the plumage of *mechaerhamphus* is very variable and that a melanistic form is comparatively common. This was described as "sooty-black" with a variable amount of white on the throat, flanks and belly and on the inner lining of the wing. This was our bird. Identification became quite certain when the slight crest and the white lines above and below the eye were seen, the colour of bill and legs noted, and the bird's crepuscular habits became evident.

Observations (through binoculars) were not made regularly and were interrupted by a fortnight's safari in the latter half of June, but before I went on safari it was clear that the two birds were a pair and it seemed that egg-laying was taking place. When I visited the scene just before dusk both birds would usually be near the nest, sometimes one of them on it, but I did not see any actual nest-building: I rather think that it was an old nest, which had perhaps been used in previous years.

When I returned from safari at the end of June one bird was always sitting, its tail just visible from below through the sticks of the nest. I never succeeded in distinguishing the male from the female, but as one bird seemed, when they were close together, to be slightly larger than the other and this bird did not have so much dirty-white in evidence on the abdomen, I presumed that this might be the female. The male—if this assumption was correct—had more white on the underparts and was usually perched on a bough near the nest, or in another eucalyptus nearby. He had an odd habit of closing the left eye, whereupon the white feathers below the eye became fully exposed and the eye looked exactly as though it were made of cotton-wool. It was quite ludicrous, for the bird then looked as though it had been stuffed and the stuffing was showing through!

The amount of white which could be seen above and below the eye varied, doubtless due to the angle from which the bird was being observed and whether the feathers were completely unruffled or not. There were also whitish markings on the throat and nape—two whitish streaks below the bill and two faint whitish markings at either side of the nape. From later observations it would seem that the under-parts of the body feathers are white or whitish and that the amount which shows through depends partly on the degree of colouration of the quill-tips and whether they are ruffled or unruffled. When the bird was preening it was noticeable how much whiter the under feathers were.

As incubation proceeded the crepurcular habits of the bird became more noticeable. One or other of the pair could always be seen flying about until at least 7.30 a.m. but the sitting bird would not normally leave the nest until the sun was well down below the horizon and the light was failing. Then it would rise, stretch its wings, and leave the nest in a sudden swoop. Sometimes it would emit the very characteristic cry—a loud, quickly repeated, high-pitched, but rather mournful whistle, all on one note; difficult to describe but once heard quite unforgettable. Another observer thought that the cry was distinctly reminiscene of the "chittering" of sparrow-hawks so noticeable at nesting time. Both birds emitted this cry when in flight, but I did not hear it so often as incubation continued. The only other cry I have heard the bird make was a deep, throaty "tug-tug" repeated once or twice as it approached the nest. The flight is very strong, rapid, level and purposeful—reminding one of that of the merlin—and the nest was approached at high speed. It was a delight to watch the way the bird would swoop round the tree in a great arc and land at the nest facing the way it had come. On these crepuscular excursions both birds would return to the nest in quick succession, stay for a short time and then fly away again. Often they would return with something in their talons, but in the fading light it was impossible to see what this might be. However, on one occasion I found on the ground beneath the nest one wing membrane, with a blood-stained piece of "fur" attached —all that was left of the body of a (?) fruit-eating bat.

I have several times seen the bird standing on the side of the nest, with its prey held firmly in its talons, tearing it to pieces with its bill, in the way many birds of prey do. Chapin and Lang found that it devoured its prey in flight and swallowed small birds whole, but the bat whose remains I found was much too big to swallow whole, even had the wings been removed, and most bats would make uncomfortable eating unless deprived of their wings.

In August it was apparent that there were nestlings in the nest which were being fed, again at dusk. In September the head of a nestling could sometimes be seen and in October it became almost certain that there was one nestling only. When it became strong enough to walk round the edge of the nest—which it did rather uncertainly and with much flapping of wings—it could be seen that it was almost entirely white, except for black streaks on the wings. The nearly black head, back and breast of the adult bird were in the fledging pure white. But, oddly enough, the eye was black and there was a noticeable black streak from the eye to the bill. The

nestling rapidly grew in size until it became nearly as big as its parents, and as it did so its colouring got darker and darker, but very pitchily, so that it presented a rather bedraggled and moth-eaten appearance. Then one day it was gone, although the parent birds—so far as could be ascertained from sight observations only—remained near the nest for a week or two longer.

The tree in which the nest was built was a few yards away from a very busy thoroughfare and only a couple of hundred yards away from the centre of the town. It seemed an odd choice of nesting site for a bird which is supposed to be rather retiring in habit, but perhaps the unlimited supply of bats which the neighbourhood must yield (hundreds from the Secretariat alone) may have influenced it. The bird paid very little attention to loud noises in the vicinity of the nest and my dog barking immediately below it did not seem to disturb it in the least.

5. **European Little Bittern makes forced landing at Dodoma.**

On 2nd January, 1953 a friend who was staying at the Dodoma Hotel brought to me an injured bird which his young daughter had found hiding in a hedge in the hotel grounds.

With Mr. and Mrs. Coster's help it was identified as an adult female European Little Bittern (*Ixobrychus minutus minutus*). It was 13 inches high when standing fully extended in the characteristic bittern attitude. The little migrant appeared to have flown into one of the wires of the adjacent wireless station and had had to make a forced landing owing to the members of the leading edge of one of the wings being torn.

I tried to keep it alive but it would not eat and I had eventually to chloroform it.

I sent the skin to the Coyndon Museum, Nairobi, which confirmed the above identification.

Although there are only about half a dozen records of this bird from East Africa it may be much commoner than is thought as it hides itself so well.

H. BASSET.

REVIEWS

Mau Mau and the Kikuyu:

By L. S. B. Leakey, London (Methuen & Co. Ltd.), 1952 pp. XI 115. end map. Shs. 7/6d.

Mau Mau:

By C. T. Stoneham, London (Museum Press) 1953 P. 159. map. 15 plate. Shs. 12/6d.

In view of the publicity which Mau Mau has been receiving not only in the East African and the British Press, but also in America and elsewhere, these two recently published books are certain to sell in large quantities. In fact Dr. Leakey's book, first published on 11th December, 1952 was reprinted in December 1952 and again in January 1953.

In these days every East African travelling overseas is immediately asked for his opinion on Mau Mau; in his very real capacity of an unofficial Public Relation Officer it behoves everyone going on leave to have his facts straight and his opinions based on a balanced factual picture.

Neither of these books gives all the facts and it would require an encylopaedia to do so—but between them they present a fair picture of the present state of affairs. Dr. Leakey's book is immeasurably the better, based on scientifically obtained data logically presented, but its very excellence lies in its restraint. It is dedicated "to the memory of my great friend Chief Waruhiu," but nowhere in the text is it mentioned that this respected Kikuyu was murdered. It needs Mr. Stoneham's book to bring home the measure of Mau Mau atrocities by the striking photo of Chief Waruhiu, (facing p. 48)—as good a portrait of an African as one could find anywhere—contrasted with this same man pictured lying dead in his car (photo fracing p. 49). This type of illustration may be regarded by some as being in questionable taste, and must certainly cause pain to the relatives of the deceased: but we are up against something brutal and primitive and a stark presentation of the facts may be necessary to jerk the overseas critics of Government out of their complacency. Other victims are also pictured: the scene in Bowyer's kitchen (facing p. 97) is particularly piognant where the evidence of peaceful domesticity, illustrated by the cooking pot and the iron on the stove, contrasts so sharply with the two murdered servants whose only offence was to stand between their fellow Africans and the selected European victim.

Such then is the contrast between the two books; one a sober marshalling of scientific facts, without a single illustration but with adequate maps as end papers; the other sensational, well illustrated, but at times inaccurate, even in the small scale map, which shows the Masai as having taken over the Kisii and Kericho Districts.

Turning now to the content of Dr. Leakey's book, he sets out, as he states in the introduction, to achieve the following aims:

"..... I shall first of all give a summary of some of the more important customs and beliefs of the Kikuyu tribe, as they were before the white man came and until about the time of the outbreak of the First World War. This will form Part I of the book and it will provide the essential background against which Part II can be studied.

"In Part II, I shall try to show how the break-down of Kikuyu law, custom, religious beliefs, and training of the young people, and the substitution either of modifications or new ideas has led to a state of affairs in which Mau Mau could operate. I shall also try to show why it is that 'Land' is the rallying cry used by the Mau Mau to win adherents.

"I shall also try to explain why the Mau Mau oath is such a potent weapon, and why it is so difficult for people who had taken this oath under pressure to seek to be 'cleansed' from its effect, until Government had shown that it would afford protection to those who did so.

"Finally, I shall attempt to outline some of the things that perhaps can be done to prevent a movement like Mau Mau from starting up all over again, once the present situation has been cleared up."

These aims are very adequately fulfilled; if the content of these chapters merits any criticisms it is that it is more than fair to everyone. For example Dr. Leakey dates the start of the expansion over the Chania River as "mid sixteenth century". C. W. Hobley, writing in 1910, in his "Akamba and other East African Tribes" states on page 135, "The Kikuyu occupation of the area south of the Chania River only dates back some 80 to 100 years". H. E. Lambert, in his "System of Land Tenure in the Kikuyu Land Unit", published 1949, puts the date of first crossing the Chania River as approximately 1800. He also quotes Dr. Leakey, who courteously gave him access to certain chapters of his unpublished work, as under:—"It is not easy to say precisely when the first crossing of the Chania River took place but..... it would seem likely that it was somewhere about 1700 A.D."

Dr. Leakey's picture (p. 62) of the early Administrative Officer is likewise a trifle idealized.

"The administrative officers themselves spent very long periods on foot safaris through their district, campaign at or near the villages of 'chiefs' and making most valuable personal contacts not only with the 'chiefs' but with members of the population, giving them friendship, giving valuable advice and winning the confidence of the masses. Gradually the people came to look upon these British officers as their helpers as well as their friends, and it became more and more recognized that the white man was there to assist and not to oppress, and for a time Government or *serekali* as the African call it was a symbol of all that was good.

"But, alas, as time went on things changed; the duties of administrative officers became more and more involved in paper work in the office and there was less time for the administrator to spend days on

> end on foot safaris in his district, getting to know the people and earning their confidence as his predecessors had done. Instead, more and more duties of the government officer were delegated to educated Kikuyu clerks and headmen, many of whom were regrettably far from scrupulous or honest in their dealings with their fellow Kikuyu, but rather took advantage of their position of authority for self-aggrandizement. Gradually, for many, the word *serekali* or Government ceased to be synonymous with good and honest dealings."

Dr. Leakey is no more afraid of criticising the Kikuyu (as above) than he is of praising the settler when he considers it merited. Of the first settlers he records, "The vast majority were not in the least 'exploiters' but came to live among and to help in the uplifting of the African. . . . ."

Balance is restored to extravagant Kikuyu claims about the early alienations by the emphatic statement on page 66: —

> "It must here be stated clearly that only a very small proportion of Kikuyu land relative to the whole was alienated to white settlers, and that hundreds of thousands of Kikuyu families in Nyeri, Fort Hall and even in the Kiambu division (where most of the alienation took place), never lost one single square inch of their land property. Unfortunately, however, the relatively small area that was alienated was all private property and it was sufficiently large to leave a not inconsiderable number of Kikuyu families landless."

These quotations are random samples showing the whole tenor or the work, fair to everyone, but slightly over emphasized as the inevitable result of the condensation and over simplification which the production of a popular work entails.

Of necessity the most controversial part of the book is the proposed solutions, which may be briefly summarized and criticised as follows:

(i) *"More land through more water."* Dr. Leakey admits the expense of this suggestion, but does not perhaps do enough to emphasize the magnitude of the task. He would have done well to quote the expense of resettlement in such marginal areas as Makueni in Kamba, where it costs several hundred pounds to put a peasant family on the land. This contrasts with the small cost in say Mbulu (Tanganyika) or Kigezi (Uganda). The brutal truth is that where suitable land is available it is already settled, where some minor deterrent exists it can be cheaply overcome, but where there is a major lack such as water the solution, as Dr. Leakey says, '. . . . . would be very costly indeed."

(ii) *"Security of tenure for Forest squatters"*: more easily proposed than achieved, as the essence of the contract is that the squatter moves on as his land is planted up. But the idea of social security for old age merits attention, and it should not be beyond the wit or the resources of the Forest Department to develop a series of permanent villages.

(iii) *"A solution to the squatter problem"*: but here, to quote Dr. Leakey, "I must admit that I do not know how this particular problem can be solved."

(iv) *"Issue of title to Kikuyu land owners"*: Here again Dr. Leakey very fairly states the difficulties. "Unquestionably, it would be very formidable and costly task, needing many surveyors, much patience, and told wisdom, in order to ensure that false claims were not made by unscrupulous land grabbers, who would try to bolster up such claims by using bribery and corruption."

(v) *"Full urbanization of the semi urban:"* This has been talked of so much that it is taken as axiomatic, but is it? It is most noticeable in the United States how the advent of universal motor transport and the spread of amenities (electricity etc.) is causing the urban worker to move out from the town and establish a small holding during his working years to which he can eventually retire. Perhaps the generally admitted necessity of social security for the African can best be met by encouraging such a system rather than by evolving a scheme of cash payments in a currency which all past experience shows will steadily decrease so as to be almost valueless when required in the worker's old age.

(vi) *"Birth control"*: this contains political dynamite and cannot be actively pursued in the present atmosphere of suspicion. It would be met with the argument, as occurred in South Africa, that the Europeans want to keep down the number of Africans, in order to perpetuate the dominant position of the European.

(vii) *"The reduction of marriage insurance"*: here is a proposal that would cost nothing, be welcomed by a majority of the people and could surely be instituted by adequate leadership and guidance.

(viii) *"Educational reform"*: here Dr. Leakey says—with truth—"Unless the rising generation of Kikuyu .... grows up with a better understanding of its responsibilities in a very complicated and exacting society, and of how to behave in such a society, there is little hope for the stable future we would all like to see." But beyond this no concrete proposal is put forward.

(ix) *"Religion: a reversion to true Christianity—the basic teaching of Christ rather than the doctrines and dogmas which split the various churches."* Again, how basically sound! But how can it be attained?

(x) *"Removal of the colour bar"*: Given goodwill this should be one of the cheapest and most easily attained solutions and if achieved would provide an earnest of European good-will which would go some way towards removing the suspicion which has befouled race relations in recent years.

(xi) *"The teaching of English"*: this Dr. Leakey advocates without considering the means of attaining it. With our present resources we cannot even *teach* a reasonable proportion of the African population—let alone

team them English. The difficulties of a half-learnt language are sufficiently illustrated by the misunderstandings arising from the use of bad Swahili by a few thousand Europeans: how much greater these would be with some millions of Africans using bad English. To bridge the many decades which must elapse before a majority of the African population speaks English well a thorough knowledge of Swahili or some other African language is essential for official and settler alike. It is surely a cheap way to earn his right to remain in E. Africa.

This review of Dr. Leakey's solutions shows that they are possibly a trifle glib, but one must be grateful to one of his authority for having ventured to propound any solution to such a serious and multi-sided problem; and even if one does not agree with them all, at least there is an authoritative background of fact against which can be tested any alternative solution which occurs to one.

How different Mr. Stoneham's approach. In his chapter "The Background of Sedition" he paints a very one-sided picture of East African conditions today, which he summarizes by saying (p. 139)

> "The only solution would be to turn Kenya into a highly industrialized country; a project as wild as a drunkard's dream..... Nowadays we can see no remedy.
>
> "Against this background of poverty and frustration, which is common to every British Colony in Africa, the various political associations manoeuvre, complaining of the denial of the people and agitating for 'home government' which is guaranteed to cure an evil insuperable to the highly-trained experts who now attack it."

It is perhaps pertinent to remark that these highly trained experts are unanimous in considering that a measure of industrialization is the only solution to the 'evil'; are they then guilty of a "drunkards dream"?

Having stygmatized "every British Colony in Africa" Mr. Stoneham goes on to say, "But Mau Mau has nothing to do with all this." Here he is at one with Mr. Oliver Lyttleton, who on his return from Kenya last year assured the British public that "Mau Mau is not the child of economic circumstances." Dr. Leakey however says, "I do not believe that Mau Mau could ever have achieved its present position if genuine grievances had not existed;" and, among the grievances he lists, the economic are not excluded.

If Mau Mau has nothing to do with economic circumstances, why discuss these? Likewise if Mau Mau has nothing to do with religious belief, why introduce a couple of chapters thereon as Mr. Stoneham does? These are Chapter VIII, "The Man in Red", which describes the upsurge of the *Dini ya Jesu Kristo* or Religion of Jesus Christ, which under a leader Ruben led to the murder of a European Police Officer in 1950, and Chapter IX, "*Dini ya Masambwa*" another religious manifestation, with leader Elijah Masindi, which resulted in an engagement between the Suk tribe and Government forces, with the former suffering 29 fatal casualties including

the local leader Lucas, the latter four, i.e. one District Officer, two European Police Officers and an African constable. Dr. Leakey stresses the deeply religious nature of the Kikuyu, whilst Mr. Stoneham (p. 102) describes the events of 23rd November, 1952 at Kirwara Market where a crowd of about 2,000 was being harangued by a youth of 18 who prophesied miracles, including the supernatural removal of the Indian shops, and the immunity of his followers to the effect of rifle fire. On both points the crowd was sadly disillusioned; the *dukas* remained where they were and nineteen of the crowd were killed and thirty wounded by the police, from whose hands the crowd tried to rescue their leader. The patchy nature of Mr. Stoneham's work is illustrated by the curious fact that he fails to mention the religious basis of the Kirwara incident though he devotes the next two chapters to the above quoted incidents springing from misapplied religious fervour.

These two chapters are amongst the best in the book, and perform a useful service; for it is as well that the reading public should appreciate the inflamable nature of a primitive tribal crowd—and what crowd in East Africa is not still primitive under the stimulus of religious fervour? Dr. Leakey has shown how the old Kikuyu religion has broken down under the impact of modern influences; events have to my mind shown that the vacuum so caused has not yet, thank God, been completely filled by perverted Christianity or other strange gods. If it had been, then in the lawless conditions at present prevailing in Kikuyuland we would inevitably have witnessed more manifestations of the *Dini ya Jesu Kristo* or the *Dini ya Masambwa* type, and not just the solitary Kirwara incident.

The Churches have suffered a great falling off of congregations during the troubles; a very adequate picture of the position is given in the January 1953 issue of "Commonwealth Challenge" in an article entitled "Christianity and Mau Mau". But equally there has been a falling off of attendance at schools. In their reversion to barbarism and savagery the Mau Mau leaders have adjured their followers to abandon Christianity, European education, even European hats, but they do not appear to have staged a revival of true Kikuyu religion. The adherents of this, Dr. Leakey points out, have no more been led astray than the steadfast Christian. There appear to be enough of these latter, willing, and frequently called upon, to suffer martyrdom for their faith, to form a leaven on whom a great responsibility will fall after the Emergency is over.

Progress in Kikuyuland can only recommence once the inevitable clouds of suspicion have been dispersed; and there will be such an aftermath of bitterness—not only from the suppression of the emergency, but even more from the inevitable hardship that the present large scale migration back to the homeland will entail—that Government Officers and even European Missionaries will find it very hard to approach the common people. The only link presenting itself is the true Kikuyu Christian, on whose steadfastness largely depends the future of the whole tribe.

Mr. Stoneham's book is of value in awakening lines of thought, rather than in presenting accurate factual information. In places there are inaccuracies and sweeping generalizations which cannot but be of dis-

service to the cause of white settlement which presumably Mr. Stoneham is out to up-hold. For example he refers to corporal punishment as "a salutory and uncostly method of preserving law and order, as every schoolboy knows". Or again in the matter of native coffee growing, he states "considering the difficulties of travel and transport such inspection"—a necessary concommitant of permitting Africans to grow coffee could never be carried out. Mr. Kenyatta must have been as well aware of these facts as myself. "Rather better, I fear, for adequate inspection, sufficient to allow native and non-native coffee growers to live side by side *is* possible, as demonstrated by the flourishing Chagga coffee industry on the slopes of Kilimanjaro.

The East African will find the vernacular words presented in an irritating manner, *M'chavi* for *mchawi, M'toto* for *mtoto, M'baratian* for *Mbatian, Lybon* for *Laibon,* and so on *ad inf.*

Mr. Stoneham unconsciously sums up the situation in one sentence on page 149. "For in truth the white people in Africa are a community to themselves; their contact with the blacks is in the way of business and overlordship, and they have little notion of the lives of the multitude about them." One would like to classify this as an inaccuracy, but truth compels one to admit that it is a generalization containing more than a grain of truth.

This point, the lack of knowledge on the part of the immigrant communities of the African mode of life and thought, brings one on to the final lesson to be learned from the sorry picture presented in these two books. Not only is sociological research most necessary, but the result of such research must be disseminated and applied by the Administration. Dr. Leakey states (p. 69) that the myth of communal ownership of Kikuyu land obtained in official circles till as late as 1929, and even thereafter. This statement has been effectively challenged by Sir Armigel Wade in the *Kenya Weekly News* of 20th February, 1953, when he points out that he was engaged on surveying *githaka* land in 1914. Even further back, when writing in 1910 C. W. Hobley states "The boundaries of (Kikuyu) estates are mutually agreed upon and marked out by adjoining landowners." Estates; landowners; boundaries; the very factors whose existence Dr. Leakey emphasizes as being disbelieved by past administrators. Perhaps the knowledge was there, but was it acted on? It is not without significance that in the first paragraph of his chapter on "A Kikuyu History and Notes on Land Tenure, Magic etc." Mr. Hobley writes, "These (notes) are now being published in the hope that the information may be of some value to civil officers working among the tribe, and in order that people may realise that *the term 'native rights' has a concrete meaning in the mind of the native himself,*" (my italics). The restrained prose of Mr. Hobley unfortunately failed to bring about such a realization; it has required all the horrific manifestations of Mau Mau in Kenya, or the spate of verbiage and useless expenditure of much official time and funds in Tanganyika (culminating in a debate before the General Assembly of the United Nations) to emphasize the simple axiom that *"native rights' has a concrete meaning in the mind of the native himself."*

H. A. F.

'Teach Yourself Swahili'

by D. V. Perrott. E.U.P. 1951. 6/-

Miss Perrott has performed a valuable service for students of Swahili by presenting them, within the scope of 150 pages, with an eminently readable yet accurate introduction to the language. For those who are intimidated by the academic approach of Mrs. Ashton or who lose interest in a more formal grammar like that of Bishop Steere, 'Teach Yourself Swahili' offers both hope and variety.

There are, however, weaknesses, possibly inherent in the 'Teach Yourself' idea in that the student may come to believe that simply by studying the grammar of a given language he has thereby mastered it. It is true to say, I think, that of those learning Swahili the vast majority are learning in order to speak it, and it is not sufficient for them, particularly in the early stages, simply to have before them a statement of how the language operates. The book must be supplemented by an African speaker or teacher, and by additional exercises, of which space does not permit anything like a sufficiency.

Again, bearing in mind that the student is primarily interested in speaking the language, I wonder whether 'The Verb' might not have been introduced earlier than Lesson 12 (a quarter of the way through the book), and 'To be in a Place' earlier than Lesson 25. I should not have thought that the student needed to know all the noun classes before using simple sentences: moreover, in view of the extreme frequency with which the 'Prepositional' and 'Causative' forms of the verb are used, it seems a pity that their introduction should be delayed until three-quarters of the way through the book.

At a more academic level, a question of method in teaching African languages presents itself. Is it wise or expedient in the long run to illustrate Swahili grammar by reference to English concepts rather than by reference to its own structure? For example, the treatment of 'ku, pa, mu' is scattered over five widely separated Lessons under the headings 'There is', 'Place and Time', 'To be in a Place' etc. while it is recognized that 'There is a cat outside' may refer in English either to a definite or an indefinite place, and as such translated in Swahili either by 'pana paka nje' or 'kuna paka nje', would it not help even the beginner to learn that 'ku, pa, mu.' are elements for which there is no direct equivalent in English and which demand treatment peculiar to themselves. Similarly, there is no direct relationship between 'it' in English and 'i' in Swahili (Less. 19); for example, 'it is overcast' is translated by 'kumetandika', and the learner has already seen that there is no simple distinction between 'personal' and 'impersonal': 'it is here' may be 'kipo' or 'lipo' according to context, and there seems little point in trying to subsume under the English 'it' any of the wide range of Swahili forms which this embraces.

In conclusion, the above considerations apart, the book is to be warmly recommended to those intending to learn the language. There are a few printing errors, ('kitanda' for 'kibanda' on P.11, and the 'i' for 'e' of line 20 on page 39) which, it is assumed, will be amended in subsequent editions.

W. H. W.

East African Institute of Social Research

Report of June Conference, 1952.

The Present Day Position of Lower Chiefs. From the Institute, Shs. 2/- plus postage.

The aims of the East African Institute of Social Research have already been described in *Tanganyika Notes and Records* (vol. no.). Prominent among them is the exchange of information among field workers by means of periodical conferences, of which that held in June, 1952, has been the most ambitious. Previously, administrative and other officials have been present as observers, but on this occasion they were brought as essential contributors. The programme was planned as a symposium, accompanied by discussion, on the position of lower chiefs—in Tanganyika terms, sub-chiefs and headman—at the present day. Most of the sessions consisted of an address by an administrative officer, describing the working of the present system of native administration in general or in a selected area, with particular reference to the headmen and problems associated with them, followed by an examination by a sociologist of the traditional and present status of such headmen and of the stresses which have arisen as a result of the change to modern conditions.

H.E. the Governor of Uganda took the chair at one of the sessions and spoke of the need for continuous study of African administration and its development. Much had been done under the auspices of the Colonial Office, but much more was required in East Africa itself. The aid of sociologists was essential to administrators if they were to succeed in the study of the long-term effects of what was being done from day to day. He hoped that a professional society composed of administrators and scientists interested in public affairs would grow from the present conference.

The Tanganyika contribution to the Conference consisted of papers by Messrs. C. C. Harris, District Officer, on the Development of Local Councils and Reorganisation of Local Government in Bukoba District, and R. W. Smith, District Officer, on the Native Authority System in Biharamulo. These were followed by studies by members of the Institute who have been working in these areas, Mrs. Reining on Village Organisation in Buhaya and Mr. J. W. Tyler on Minor Chiefs in Rusubi Chiefdom, Biharamulo. In these papers, as in those dealing with Uganda and Kenya, there was one recurrent theme, which was later examined in a general discussion. This was the problem, and equally the necessity, of reconciling the traditional care and leadership of the village or "parish" with the manifold executive tasks required under a modernised system of administration. Efficient tax collection and the maintenance of law and order are the primary necessary duties of the leader of the village community, but in addition he is increasingly expected to act as the interpreter and enforcement officer of Government and native administration policy. Nowadays, we are beginning to think that a headman must be literate if he is to be able to carry out his work efficiently, but few native administrations can afford to pay salaries which are adequate for literates, while many can only produce a pittance which is no more than a recognition of the existence of the headman.

Reliance is placed on the dignity of the post to produce candidates, but the position increasingly produces less honour and perquisites and more work, while the depression of status is underlined by the frequent presence in the village of better paid and more authoritative enforcement staff, such as those concerned with agricultural and veterinary requirements.

Not unnaturally, the dilemma was posed more clearly in the Conference than the solution but suggestions were made which may be of value in studying the problem in Tanganyika. Larger units, with better paid and better educated headmen, the provision of technical and other assistants to traditional headmen for non-traditional work, the replacement by degrees of the present village heads by village councils or by the representatives whom the villages send forward to local councils—these were some of the possibilities which were put forward in the discussion. In many of the districts of Tanganyika the village headmen is freely chosen already by the people as their clan or local head. Elsewhere, where the tribal organisation is headed by a chief, the position is often otherwise and demands for free choice of the headmen may time to be construed by a chief as an attack on his own position especially where the appointment of village headmen, as also of clerks and other local government staff, is in his patronage. Thus the task of the Administrative Officer in bringing about this, as other aspects of constitutional reform, while at the same time retaining the support and preserving the dignity of the chiefs, is delicate. The researches of sociologists, both our own and those under the aegis of the East African Institute of Sociological Research, are and will be of great assistance towards resolving this important local administrative problem, and the report now under review provided a most valuable introduction.

R. Je Z. H

Flora of Tropical East Africa, Part II, Oleaceae

Published by the Crown Agents for the Colonies. 2/9d.

Foresters and gardeners should be interested in the latest part of the Flora of Tropical East Africa. The family Oleaceae has now been published and consists of 31 pages with seven figures bound in a paper cover and issued in London on the 1st July, 1952 for the sum of Shs. 2/9.

It opens with a description of the family as a whole and is then followed by a key to the genera.

Five genera are described, *Schrebera* with seven clearly defined species and three uncertain; *Olea,* with six species; *Linociera* with *L. johnsonii* Baker and *L. nilotica* Oliv., *Dekindtia africana* Gilg and *Jasminum* with twenty species.

Of the seven species of *Schrebera,* to which there is a key, *S. alata* (Hochst.) Welw. is the most widely distributed being found in Uganda, Kenya and Tanganyika and extending from Ethiopia into Nyasaland and Anglola. This is illustrated by a full page line drawing by D.R.T. consisting of a branchlet with inflorescence, a flower bud, calyx, corolla, an ovary style and stigma, a fruit natural size as well as a seed.

The genus *Olea* to which the Olive belongs is of great economic importance not only on account of its oil bearing fruits but for its woods as three of its six species yield timber, they are the Brown Olive, *Olea chrysophylla* Lam., the East African Olive or Musharagi, *O. hochstetteri* Baker and the Elgon Olive or Loliondo, *O. welwitschii* (Knobl.) Gilg & Schellenb.

O. chrysophylla besides being found in East Africa, occurs in Zanzibar, has a wide distribution from Central, East and North-east Tropical Africa, South Africa, the Mascarenes, east to northern India and western China. The East African Olive, *O. hochstetteri* is found in the three East African territories and extends into Ethiopia, the Anglo-Egyptian Sudan, the Cameroons, Ivory Coast and the Congo. Elgon Olive or Loliondo, *O. welwitschii* was first recorded from Angola and has a distribution from that country to Uganda, Kenya, Tanganyika and Northern Rhodesia. To foresters botanically inclined Elgon Olive has hitherto been known under the botanical name *Steganthus welwitschii* as it was said to differ from *Olea* on account of the imbricate folding of its corolla segments. The author, Dr. W. B. Turrill, says however, the folding of the corolla segments varies so much in a single flower that it cannot be maintained in *Steganthus,* in fact the species is in many characters very similar to the East African Olive.

Of the two species of *Linociera, L. johnsonii* is a West African species with a distribution into Uganda and north-west Tanganyika and has yet to be found in Kenya. *L. nilotica* was originally discovered in Madi, West Nile District, Uganda, by the Speke & Grant Expedition, besides occurring in Kenya and Tanganyika it has a distribution to West Africa by way of the Anglo-Egyptian Suran, Cameroons, Chari, Ivory Coast, Togo, Dahomey and Nigeria.

Dekindtia africana was first described from Angola but has now been found in the Transvaal, Southern Rhodesia, Nyasaland, Tanganyika and Kenya and is common in and around Nairobi, it is a large shrub or small tree to 40 ft. with white flowers and has infrequently been planted in gardens.

To the lay man the genus *Jasminum* will be rather terrifying with its 20 species, a key to all of them is provided, the main disitinctions being a group containing the remaining 15 species having simple leaves.

The best known Jasmine and the most widely travelled is *Jasminum fluminense* Velloso, better known to some of us in East Africa as *Jasminum mauritianum* described by De Candolle in his Prodromus in 1844 on a specimen collected by Bojer in Mauritius. This most frequently used specific name has now to be abandoned in favour of the little known but earlier name *J. fluminense* published in 1825 on a plant cultivated in Brazil at Santa Cruz near Rio de Janeiro! It seems to be the most widely distributed of the Jasmines being found throughout Tropical Africa as far as South Africa, in Mauritius, the Seychelles and in Arabia, it is found also in the West Indies and South America where it has been introduced. Not only is it widely distributed but it is also the most variable, under the specific name *J. fluminense* there is a key to five intraspecific varieties,

one of them subsp. *nairobiense* being endemic in the Nairobi District of Kenya.

Many of the species are very ornamental and should be more grown in gardens; none appear to be exploited for their essential oils, no doubt because oil of Jasmine can be produced much cheaper synthetically than by the enfleurage process used for obtaining the essential oil of Jasmine from the flowers of the so-called Spanish or Catalonian jasmine *J. grandiflorum* L.

The five genera are illustrated by line drawings, the genera *Olea* and *Jasminum* are represented by two each. Some of them are not as good as in the first family Ranunculaceae that was published earlier in the year.

A little more care could have been taken in correcting the manuscript and the proofs as a collector's name to one specimen cited has been omitted and some place names have been ill spelt. The author, however, Dr. W. B. Turrill, Keeper of the Herbarium, Royal Botanic Gardens, Kew, is to be congratulated on the completion of a very critical family for the Flora of Tropical East Africa. The book is obtainable from the Crown Agents, London, all Government Printers in East Africa and Zanzibar as well as The Uganda Bookshop, Kampala, Uganda.

F. J. G.

CORRESPONDENCE

A Nineteenth Century Potentate

Sir,

On maps of the Rufiji area will be seen the name Mparange north of the river Rufiji and just north of the Luhohi river (of sulphur hot-springs interest). This settlement gets the name from one Mparange, an immigrant from the Gindu country or *Ndonde* (means inland as *Ruhingo* means upstream) who in the latter part of the last century established himself with his few relatives and followers by sheer force of character. Many small settlements were made around this country north of the Rufiji from upcountry, *Ndonde,* by inland tribes, especially from Uhehe.

Mparange encouraged slaves at Muhoro, or Kikale or Mgongo on the way to Dar es Salaam, to run away and join his settlement. He told them if their masters followed them they were to shoot them. He armed them with bows and arrows I presume, poisoned.

Mparange had a brother Kahimba Kacheni and another relative Kikuni cha Moto. They were a good team and excellent pioneers.

Muhoro and Kikale and Mgongo slave-owners combined to attack him. They met with a very determined retaliation of war-fare. Shot by a musket, Chogamvu Mlawa of Muhoro, one of the leaders of the attackers, was eliminated. Another, Mzee Komboyagi, was killed with an arrow. Mzee Mwirora was another victim of Mparange's swift retaliation. A muzzle-loader laid him low. These leaders being out of the picture, the slave-owners' force retired. They left Mparange alone. He became a power in the land. All feared him. He exacted tribute from those who passed through his domain. His cultivations thrived and his settlement grew.

Yours etc.,

R. de la B. BARKER,
P.O. Muhoro.
Rufiji, T.T.

Sir,

Further to my article on Ngara Birds in Tanganyika Notes & Records No. 30 Dr. Chapin of the American Museum of Natural History suggests (*in litt.*) that the *Lanius mackinnoni* mentioned may very well be *Lanius souzae burigi*, a race recently named by him from the Belgian side of the border. Any ornithologist who visits or is stationed at Ngare might find it worthwhile to collect a few of these. Also *Lybius rubrifacies*, which is poorly represented in Museums, and the male *Podica senegalensis*.

Yours etc.,

L. A. HALDANE,
District Office,
Tanga.

Sir,

With reference to the notes on the coinage of German East Africa I think the enclosed cutting ("Ubersee-Nachrichten" (Overseas News), 15.11.52) might be of interest. (No German submarine ever came to this country, however).

> "Tabora gold sovereigns are now being sold in Morogoro (East Africa) in order to build a rectory out of the proceeds. The *Tanganyika Standard* reports that these golden pounds, as well as 10 and 20 heller pieces, were minted by the German Government in Tabora. The matrices must have been manufactured by a very skilled engraver and must have been brought to Dar es Salaam by submarine. The Museum in Dar es Salaam would like to know more about this. We can report on the subject that the matrices were made in 1916, after a design by Mr. Voigt, by the Railways Administration, with makeshift means in the railway workshops at Tabora. The gold came from the Sekenke Mines, whereas the less carefully manufactured hellers were minted from old cartridges cases. Many thousands were minted and one could buy them from coin dealers after the 1st World War. The Europeans were said to receive their salaries in gold pieces, but only a few reached the fighting troops."

Yours etc.,

U. TRAPPE.

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THE DEFENSIVE MEASURES OF CERTAIN TRIBES IN NORTH-EASTERN TANGANYIKA

By H. A. FOSBROOKE, M.A., Senior Sociologist.

The article which follows is the first of a series of four, descriptive of the measures which certain tribes of North-Eastern Tanganyika undertook to defend themselves against their enemies.

The tribes concerned and their defensive measures will be dealt with as under:—

Part I (published below): **The Gweno Bolt Holes.**

The Gweno are a group numbering about 14,000, living in the northern tip of the North Pare Mountains: they like to consider themselves a tribe apart from the Pare or Asu, but the process of merger seems inevitable. In common with the neighbouring Asu they excavated elaborate tunnels and chambers in which to conceal their women folk and cattle in time of tribal war.

Part II: Iraqw Housing as affected by Inter-tribal Raiding.

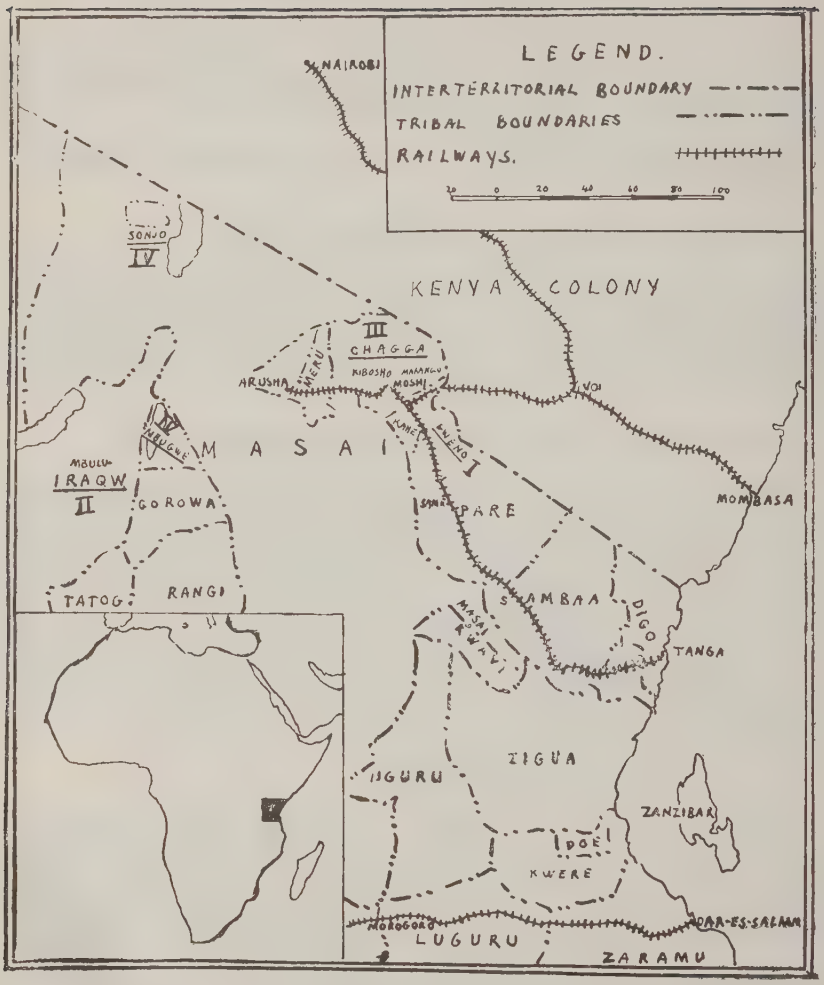
The Iraqw, over 100,000 strong, are the chief tribe of the Mbulu District, dwelling in the highland area immediately to the west of the Rift Wall. A feature of their culture is their housing, excavated dwellings with the earth roofs little above ground level, remarked on by all visitors to their country, and observable even to those who only touch the fringe of the area, as when on a visit to Ngorongoro Crater. This mode of construction, generally considered typical of the Iraqw, is not the only type of house in use. Dwellings range from completely subterranean houses, now very rare, to walled and thatched structures completely above ground. These are described and illustrated and the relationship between the type of dwelling and its strategic position is discussed.

Part III: Chagga Forts and Bolt Holes.

These are the work of the Chagga tribe, a group now about a quarter of a million strong, living on the southern and eastern slopes of Kilimanjaro. They were first described and illustrated in this Journal (No. 10) by the late Bishop Wynn Jones. But since his publication the existing remains have deteriorated considerably. Every effort is being made to arrest the decay, but it is at the same time felt advisable to publish further photos and descriptions, to provide a permanent record of these structures which cannot by their nature be preserved indefinitely.

Part IV: Sonjo Scarps and Mbugwe Flats.

This section deals with the defensive measures of two very small Bantu groups. The Sonjo number only three thousand five hundred all told, tucked away in the hills to the west of Lake Natron. They live in five fortified villages, and the siting of these latter at the foot of steep hills, and their gateways and stockades are undoubtedly due to this tribe's position



Map to illustrate the series 'Defensive Measures'. The tribes dealt with are underlined and numbered. Copied from the Tribal Map in the Tanganyika Atlas.

as a small island of agriculturists completely surrounded by the pastoral, warlike Masai. The Mbugwe, likewise Bantu, are about 7,000 strong, and similarly their choice of habitat has been dictated by their proximity to the Masai. But being spear men they have chosen to dwell on the flats, in country which others, African and European alike, regard as completely revolting in its inhospitality—flat, waterlogged in the rains, covered with alkaline dust in the dry season, treeless, shadeless, and frequently grassless.

These then are the tribes dealt with: Gweno (i.e. Pare), Iraqw, Chagga, Sonjo and Mbugwe. The foregoing remarks, and a glance at the location map, reveal one common feature: that their territories all abut on to Masailand. The presence of these warlike folk has doubtless been a factor in the development of the defensive measures described, but it is a factor which has been over-rated in the past. The picture of the arrogant Masai lording it over the plains whilst the cowering agriculturists eke out a precarious existence in their mountain fortresses simply is not true. As will be seen from the fuller descriptions which follow, Chagga fought Chagga and Mbugwe Mbugwe, and devised their defensive measures accordingly.

The form that such measures took was in part decreed by cultural circumstances (e.g. the Mbugwe being spearmen sought the flats), in part by the physical environment. Even had they wished, it would have been impossible for the Sonjo to have excavated bolt holes similar to the Chagga or the Gweno, in their rocky boulder-strewn hillsides, though it is conceivable that the Gweno might have built stockaded villages instead of underground tunnels and chambers. These environmental factors are further considered in individual cases in the fuller descriptions which follow.

PART I

THE GWENO BOLT HOLES

In the northern tip of the North Pare mountains, in the Pare District of Tanganyika, there lives a tribe named the Gweno. The range in which they live rises abruptly from the flat African bushland (altitude 2,000 ft. approximately) to 4,000 or 5,000 ft. The confined area in which the tribe lives on the top of the range is not open plateau, but heavily broken country, scoured with deep valleys. The Gweno occupy one part only of the North Pare range, the rest being occupied by the Pare or Asu tribe, who extend to the Middle and South Pares also. There are reported to be numerous tunnels or bolt holes in the area, called in the vernacular *Mreshe* (pl. *Mireshe),* in which the Gweno and Asu used to hide their women and cattle in the event of raids by neighbouring tribes, but so far only one of these has been explored.

The site of the bolt hole here described lies about three-quarters of an hour's hard walk from the headquarters of the Chief of the Gweno in the country of Headman Idi Kiranga of Murumba, in the locality called Rufu. The entrance to the tunnel is sited about one-third of the way up the steep bush-covered hill which rises at a slope of about 1 in 3 for several hundred feet from the valley below. There is now no habitation on the hillside though when the bolt holes were constructed it was said to have been

FIG. I. The true entrance, with Joseph Njage half hidden in the true entrance tunnel, showing its direction.

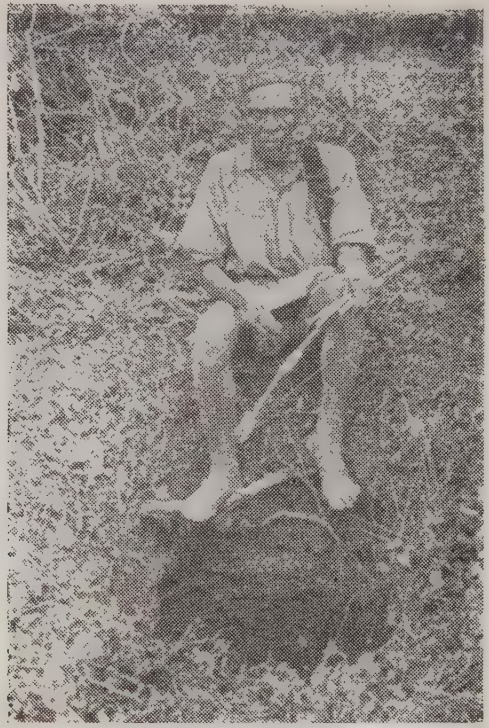


FIG. II. A close-up of Joseph sitting at the edge of the shaft which occurs only 4 feet along the true entrance tunnel. This old man frequently hid in this bolt-hole when the alarm was sounded and remembers helping to remove earth from the tunnels in baskets.

FIG. III. Looking vertically down the shaft which ventilates tunnel E. It is 27 feet deep.

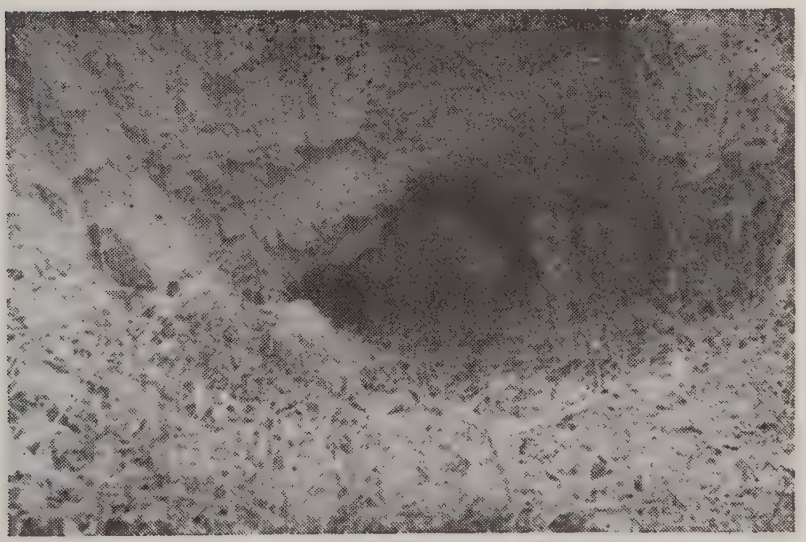


FIG. IV. The false entrance, with Joseph emerging from tunnel A. The long tunnel from the true entrance comes in from the left of the picture.

covered with bananas. Houses and crops are to be found in the valleys, the nearest being of an old man Joseph Njage, who in his childhood helped to carry earth from the holes when under construction or repair.

The entrance to the bolt hole was through the floor of a house, and although the latter has long since disappeared the levelled site cut out of the hillside is still discernible. The entrance, shown in Fig. I, has not yet been reopened, but even in its present state it can be appreciated that cattle, of the small type met locally, could at a squeeze be pushed down the steep ramp to the tunnel beneath. After only 4 feet an air shaft or peep-hole is encountered, striking the surface before the tunnel has got beyond the levelled house site. Thereafter the tunnel proceeds about 40 feet, uncleared at the time of writing.

The tunnel then changes direction at right angles at the spot shown on Fig. X as the false entrance. At this spot, Fig. IV, where the tunnel was within a very few feet of ground level, there was in fact an air hole through which my informant, Joseph, remembers passing up earth in baskets as a child. It is unlikely that this work which he remembers was original construction—more probably a clearing out of fallen debris. This air hole or subsidiary entrance was obscured by shrubs specially planted for the purpose. Its collapse, and the fact that it was the only means of entering the tunnel without excavation, led me on my first visit to the erroneous conclusion that it was the proper entrance. Only when it was observed that there was no levelled house site at the point of entry was further enquiry undertaken and the proper entrance revealed.

The tunnels, as can be seen from the plan and section, run straight for fifteen to twenty feet. They are roughly circular in section, but with a flat floor, and an average diameter of five feet. Measured at random points the following dimensions were recorded:—

5ft. 7in. high, 4ft. 8in. broad; 4ft. 3in. high. 4ft. 3in. broad;
5ft. high, 3ft. 9in. broad.

In some cases considerable detritus has accumulated and partially or wholly blocks the tunnels, but the above measurements are in respect of unobstructed sections.

A unique feature of the tunnels is that wherever they change direction there is a niche, recess or alcove excavated at the outer angle in the form of a cul-de sac. The use of these was explained to me by elders, who in their youth had taken refuge in similar bolt holes, but their purpose was also apparent from the form of their construction. They were, in effect, a trap or ambush in which the defender could lurk and assault from the back any attacker who penetrated, after he had passed the unobserved defender. As shown on the plan, four of these recesses occur in the bolt hole explored—three in the tunnels and one a short distance up the shaft. The discomfort of the crouching defender must have been considerable, as in one case (recess III on the plan) the entrance is not more than 1 foot 6 inches x 1 foot 3 inches, and the depth of the recess 4 feet 6 inches. In the case of recess II this difficulty was overcome by a vertical excavation in the roof of the recess 2 feet in diameter and penetrating upwards to a

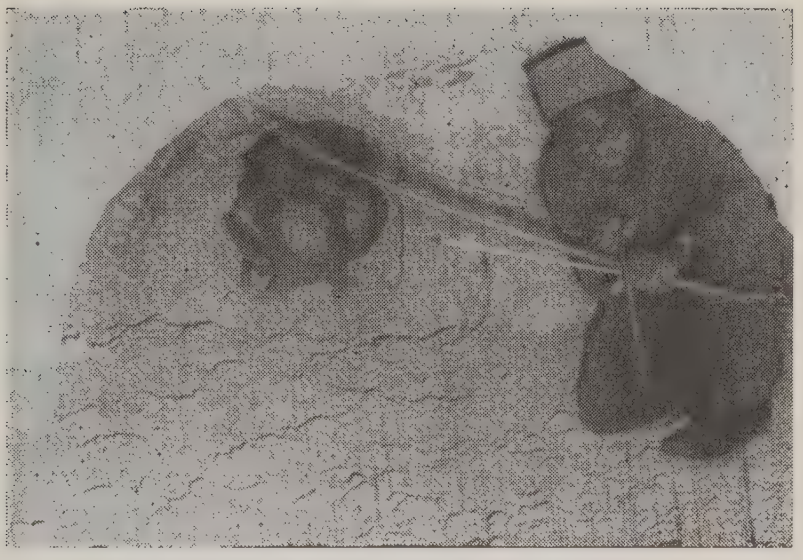


FIG. V. Junction of tunnels A and B, taken from tunnel B at point P. VI showing figure on right with bow and arrow emerging from tunnel A, with figure on left crouching in recess I, ready to attack intruder from back. This and subsquent six photos are flash, taken from the points indicated on Fig. XIII.

FIG. VI. Taken from centre of chamber, point P. VII, with figure on left emerging from tunnel B, whilst tunnel C goes off to right.

FIG. VII. Main chamber from tunnel B at point P. VIII, showing rocks from caved-in portion of roof, and bat dung. Blur in bottom right-hand corner is bat in flight. Note the pick marks from the original construction work, and subsequent smoke encrustment.

FIG. VIII. From mouth of tunnel B, looking across main chamber to mouth of tunnel E, guarded by man with bow and arrow. Main chamber lies to right; note smoke encrustment on walls, but none on roof which has fallen in at this spot. Figure in bottom left corner is emerging from tunnel C.

total height of 4 feet 7 inches from the floor: while not allowing the defender to stand upright, this at least gave him greater comfort than the cramped conditions in the other recesses. This is shown in Fig. V where the head and shoulders of the crouching defender on the left are lost in the vertical tunnel.

The chamber in which the humans and cattle were accommodated is a rough circular excavation with domed roof of an original maximum height of about 5½ feet. A fall from the roof has, however, given greater head room so that now one can stand upright in parts. The main chamber is about 13 feet in diameter. The smoke-blackened roof, clearly seen in Fig. VII, testifies to the frequent use of the bolt hole, whilst Fig. VIII shows distinctly a marked contrast between the smoke-blackened dome and the portion of this which has fallen in, thus exposing a fresh surface.

In the tunnel E which, after a short distance is blocked by debris, there occurs a vertical shaft reaching to ground level, Fig. III, with a surprisingly small diameter of 2 feet 3 inches. The vertical height is 22 feet 7 inches from the ceiling of the tunnel, thus the total height from the floor would be about 27 feet 6 inches. Besides serving the obvious purpose of ventilation and smoke chimney, my informants told me that these shafts were also used as sally ports, whereby the defenders could spy on the attacking party and attack them from the rear.

An extraordinary feature is the tunnel CD, which strikes off from the main chamber at the point where tunnel B enters it. It goes up at a slope of about 1 in 4 to recess II, and then doubles back to strike tunnel E a short distance from the main chamber, the junction of D and E also being defended by a recess. The only reason for such construction would appear to be to confuse the enemy.

All these excavations occur in ground which the Geological Department describe as "decomposed gneiss of the lower basement complex". From its texture it is obvious that it is fairly easy to work, but it is definitely rock rather than soil. The roots of the trees and bushes above penetrate the cracks and can be seen in the dome of the main chamber, varying in size from thin fibres to roots as thick as a pencil. At this point ground level must be about ten feet above the dome.*

Contrary to popular opinion these bolt holes seem to have been designed, not so much as defences against marauding Masai, as against the raids of the Gwenos' fellow Bantu—the Chagga and Asu. In Chagga country also, where similar bolt holes and also above-ground stone fortifications occur (see the third article in this series), the local history makes it apparent that here again the major enemy was the fellow Chagga and not the Masai. I was informed that in the days of tribal warfare not everyone possessed such defences, but that important people constructed them with the help of their neighbours, who shared in their use in the case of warfare. The entrance tunnel itself was not exposed to the outside, but went from

A speciment of the rock forming the roof of the chamber has been deposited in the King George V Memorial Museum, where it can be examined by anyone interested. This specimen also shows clearly the smoke incrustation.

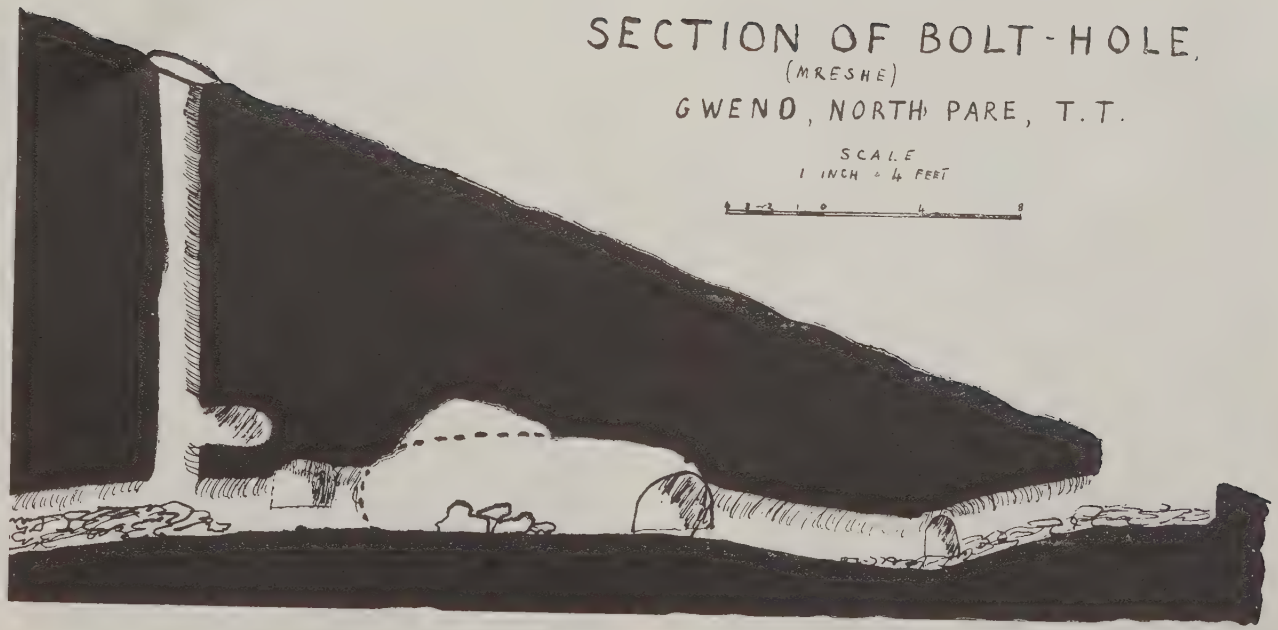

SECTION OF BOLT-HOLE.
(MRESHE)
GWENO, NORTH PARE, T.T.
SCALE
1 INCH = 4 FEET

FIG. IX

the back of the owner's hut. Fodder for the cattle was stored in advance of requirements, and the food problem of the humans would be solved by access to the grain stock in the house above. No record exists here of how the water problem, bovine and human, was solved though in the neighbouring Chagga area water furrows are said to have been led into similar excavations on Kilimanjaro (see Part III in this series).

The tunnel under description belonged to one Merisa son of Gendewa in the time when Gendewa was the Chief of the Gweno. From the genealogical and other evidence it appears that this tunnel is between 75 and 100 years old. It is not known who actually constructed it, but I was informed that the Chagga were frequently invited to perform such work on contract. They were paid by piecework, such and such a length of tunnel being prescribed for a fixed payment. My informants, when asked, could not be precise, but thought that about 5 feet of tunnelling would be executed for one head of cattle or two hoes. The relative value of cattle and hoes in pre-European times is most revealing. It shows an acute scarcity of iron in the volcanic Chagga area, which could only be met by paying exorbitant prices to neighbouring tribes living in non-volcanic areas where iron ore was available for smelting.

As a matter of interest, another instance of Chagga undertaking excavation work on contract is their work for the Masai on the deep wells of Central Masailand. This and other evidence disposes of the theory that strict *apartheid* was practised in the past between the pastoral and agricultural elements of the population. The narrow ventilation shafts of the Gweno bolt holes throw fresh light on the Central Masai wells, of which the depth and narrow bore have caused considerable comment in the past. It has been contended that they must have been the work of a dwarf race or that the contractors were particularly skilled people with some special drilling technique to enable them to work in so confined a space. But the Gweno bolt holes provide a specific example of similar shafts which we know to have been drilled by the present inhabitants of this region.

The employment of Chagga seems to have been a particularly short-sighted policy on the part of the Gweno, for it was stated that the excavators on their return home frequently acted as guides to Chagga raiding parties.

A further manifestation of tribal war in this region is to be found in a hill-top fort on one of the hills overlooking the Headquarters of the Chief of the Gweno. This is now overgrown with bush and very dilapidated, but shows evidence of a crude masonry wall. Informants said that a tunnel led from this fort to a neighbouring defence work on the opposite face of the hill but this was a matter of a few yards only.

The bolt hole described above is only one of the many reputed to be in this area. One with a particularly tragic history occurs in the neighbouring chiefdom of Usangi, likewise in the North Pare Mountains, but inhabited by a section of the Asu or Pare tribe from whom the Gweno tribesmen like to distinguish themselves. On the advent of a German patrol, at the time of the first subjugation of the country, the Chief of Usangi and

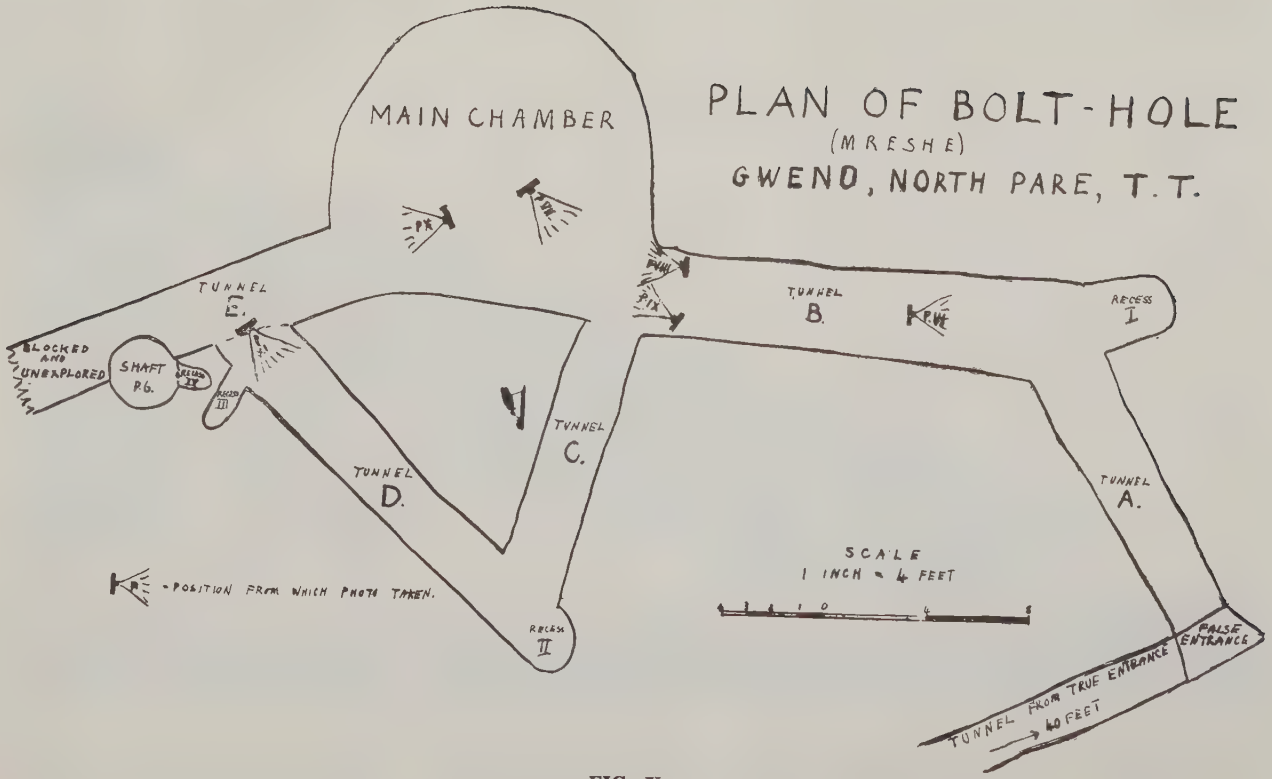

PLAN OF BOLT-HOLE
(MRESHE)
GWENO, NORTH PARE, T.T.
MAIN CHAMBER
TUNNEL E.
BLOCKED AND UNEXPLORED
SHAFT P.6.
RECESS IV
RECESS III
TUNNEL D.
TUNNEL C.
RECESS II
TUNNEL B.
RECESS I
TUNNEL A.
FALSE ENTRANCE
TUNNEL FROM TRUE ENTRANCE
40 FEET
SCALE
1 INCH = 4 FEET
- POSITION FROM WHICH PHOTO TAKEN.

FIG. X

his family took refuge in this bolt hole. The patrol lit fires at the entrance to the tunnel and so suffocated those in hiding within. The father, Sabuni, of the present Chief William was one of the party in hiding, but at the time of this atrocity had been sent out on an errand: thus the family was saved from extinction.

It is obvious that much further research remains to be undertaken; even the series described above has yet to be fully explored. One of my guides had penetrated Tunnel E for a further 30 or 40 feet before it became obstructed, and even then he did not reach the end but turned back through timidity. So further exploration of this and other caves is obviously indicated. The best and most accessible example will then be chosen for preservation, for this part of Africa is so poor in relics of the past that every effort must be made to preserve such evidence of their heritage for the educational enlightenment of the coming generation of these fast advancing people.

REPORT ON WEST USAMBARA FROM THE POINT OF VIEW OF HEALTH (5/8/1898).

By Robert Koch

(The report printed below was discovered recently, in manuscript form, amongst some old papers in the loft of the Pathological Laboratory in Dar es Salaam. It has been translated by Miss V. Blessley, Assistant Curator of the King George V Memorial Museum; and Dr. H. J. O'D. Burke Gaffney, O.B.E., a well-known former resident of Tanganyika and now Assistant Director of the Bureau of Hygiene and Tropical Diseases in London, has been good enough to write an introductory note—Ed.)

ROBERT KOCH

Robert Koch (1843-1910) began his professional career as a general practitioner in the East Prussian town of Wollstein and ended it as a medizinalgeheimrat, with a world reputation as the "Father of Applied Bacteriology". It was he who first brought specialized techniques to the demonstration and isolation of bacteria and applied the principles of Pasteur to the development of a new practical science. He was himself responsible for the discovery of a number of specific bacteria, notably those of tuberculosis and of cholera, and during 12 years he and his pupils discovered the causative organisms of no less than 11 diseases. His well-known "Koch's Postulates" became the criteria for bacteriologists of the proof of causative relationship between a disease and a specific micro-organism.

From his youth, Koch had a longing for travel and exploration, so that when his renown as a bacteriologist became world-wide, he eagerly accepted the invitation from the German, British and many other Governments to study infectious diseases in many parts of the world. In 1883 he was sent to investigate cholera in Egypt, in 1896 the British Government invited him to study rinderpest in South Africa, in 1897 he investigated plague in India, in 1898, he carried out malaria research in New Guinea and Indonesia, in 1903 he studied East Coast fever in Rhodesia, in 1904 he travelled widely on surveys in German East Africa and in 1906 he headed the Sleeping Sickness Commission there.

At various periods during these years, he visited what is now Tanganyika particularly between 1896 and 1898 and 1903 and 1905 in the study of medical and veterinary diseases, and his work included research on malaria, relapsing fever, plague, sleeping sickness and various animal diseases, in Dar es Salaam, the Lake Victoria area, Amani and many other parts of the Territory.

In commemoration of his work in East Africa, particularly between 1896 and 1898, the Imperial German Government erected a brass tablet to his memory in the room where he had worked on the upper floor of what is now part of the Medical Laboratory in Dar es Salaam, and the tablet may still be seen there to-day. There is also an autographed photograph of Koch in the present Senior Pathologist's room where it has hung since it was first placed there about 1912. It is of interest that a former head Laboratory Attendant, Hassani bin Selemani, who had served continuously in the Medical Laboratory in Dar es Salaam for over 40 years

until his death in 1941, had served under Robert Koch and often spoke of him. On his last visit to the Territory in 1906, Koch had as his Chief Assistant Professor Kleine, who was afterwards to become a world authority on sleeping sickness. Some of us who worked with him then and during his various later visits to the Territory have happy memories of Professor Kleine who died less than 2 years ago in Johannesburg at the age of 81.

Finally it is perhaps a coincidence that the present head of the department of Parasitology and Tropical Hygiene in the Robert Koch Institute for Infectious Diseases in Berlin (founded in 1891) is Professor Herbert Kunert, who himself practised in Tanganyika for several years between the wars.

The paper published below is noteworthy for the accuracy of its observations,, many of which are in accord with modern knowledge of malarial epidemiology, although they were written 55 years ago.

H. J. O'D. BURKE GAFFNEY.

Two questions, not unimportant for German East Africa, have recently been associated with the western part of the Usambara Mountains, namely its suitability for settlement by German immigrants and the establishment of a sanitorium. Both questions are connected to a certain extent. If a district is to be considered suitable to receive German immigrants starting a new life as farmers and cattle-farmers, then, apart from the fertility of the soil, it must above all be healthy and have a climate which will enable the European to do the necessary agricultural work himself. Such a district would automatically be suitable for the establishment of a sanatorium.

According to all reports, West Usambara appeared to be especially favourable. The climate there resembles the European, and it is considerably cooler than at the coast or even than in the hot steppe nearby; at times it can be definitely cold, although the temperature never falls to freezing point.

On the other hand, an objection raised against the Usambara Mountains has been that conditions there are not entirely conducive to good health. The European who stays there for a while is subject to a continuous feverish illness lasting from 1 to 2 months, a kind of acclimatisation fever which can become quite dangerous. Moreover, in the mountain the sun's rays have such a strong effect that they have very often brought about sunstroke.

In order to throw light on this state of affairs, I myself went to West Usambara and, delayed by experiments on Texas cattle fever, stayed there about 1½ months, long enough to obtain an insight into the healthiness of the mountain climate.

West Usambara forms a mountain block on its own. It is completely separated from East Usambara by the deep and broad Luengera Valley. On all sides steep rock faces rise from the flat steppe, like the walls of a fortress, while higher up lies a hilly area situated at between 1,200 and 1,600 m., which in its formation is reminiscent of the central German mountains: rounded summits, wooded at the top, and basin-like and flattened

valleys in which streams flow. The waters accumulate to form little rivers and, on reaching the edge of the mountain, precipitate themselves to the steppe below in mighty waterfalls.

The most frequented route to West Usambara runs from the coastal station of Tanga through Bondei country to the Pangani or Ruvu River which comes from Kilimanjaro and receives the waters of the Mkomasi River on the western border of the Mountain. The caravan route leaves the Ruvu very shortly after this and follows the Mkomasi as far as Mombo, where the ascent into the mountain begins. Over the whole stretch through Bondei country and along the Ruvu and Mkomasi Rivers one has to pass swampy depressions, the most dreaded being the Tarawanda Swamp which is covered with papyrus thickets; in the rainy season it takes nearly half an hour to wade through it.

In order to reach the mountain from the coast, a safari of 7 to 8 days is necessary.

At the moment two or three dozen Europeans are living in West Usambara, distributed among several mission stations, the cultivation and experimental station of Kwai set up by the Government practically in the centre of the mountain, and one plantation.

On arrival at Kwai, my destination, the impression which I gained of the state of health of the Europeans in the mountain was at first highly unfavourable.

One of the missionaries who had been brought from Gare Mission to Kwai for treatment lay there seriously ill. Two station officials fell ill during the first few days, as well as one of my companions. The saddest sight was at Gare Mission which I visited as soon as possible.

This station was founded by Trappists in August 1897 at a place favourable from every point of view; but the short period of its existence has formed a continuous chain of illness and death.

The Trappists who built the station were two fathers. They had come from Natal, that is from climatic conditions not dissimilar from those of the Usambaras. But already a short while after their arrival both fell seriously ill; one of them died and the other was brought to the coast and thence to his own country, where he apparently recovered.

Towards the end of October three lay-brothers came to Gare in order to reopen the mission. Hardly had they arrived at Gare than the illness attacked them too. As there was no one to treat them, they had to be brought to Kwai. Two of them had already slightly recovered, but at the time of my visit to Gare, where they had returned, they still looked very weak and miserable. The third lay at Kwai in a very critical condition. He was as pale as death and nearly unconscious; his pulse was hardly perceptible and very fast, and his temperature was below normal. He was therefore in a state of collapse which led one to fear that the worst would happen at any moment. He was fortunately able to overcome this dangerous condition. On 11th December two more fathers arrived at Gare. Eight days later one of them was brought dying to Kwai; the other suffered repeated attacks of the same illness and he too, so I learned in time, shared the same fate later on.

Thus, right from the start I got to know the acclimatisation fever of the Usambara Mountains in its worst form. Of the few Europeans in Kwai, three were ill. At Gare Mission not a single one of the settlers had escaped the illness and three of them had even succumbed to it.

If the same fate—or even anything approaching it—were to threaten all further settlers, there could naturally no longer be any question of settlement in the mountain or of the establishment of a sanatorium.

Fortunately, my investigations were quick to throw quite a different light on this desperate state of affairs.

First of all the so-called acclimatisation fever did not turn out to be a special illness after all, but nothing more than subtertian malaria. Furthermore, when one took into account the incubation period of subtertian malaria, it became immediately obvious that the sick persons had brought their illness with them into the mountain from the coast or the plains.

In the case of one of the fathers who had died, it could even be proved with certainty that he must have become infected already in Tanga, as the first symptoms of the illness had revealed themselves on the way, at Korogwe. In the case of some of the sick persons who, despite a long stay in the mountain, had fallen ill once again, I was able to prove that they were only suffering from relapses of the malaria originally brought to the mountain. I did not come across a single case of subtertian malaria on the heights of the Usambara Mountains which could not with certainty be traced back to the coast or to the period of the safari from the coast to the mountain.

I therefore feel able to state positively that the mountain itself is free from malaria. This only applies, however, to the altitude of 1,200 m. and over. Lower down, certainly already at 800 m., cases of malaria infection do occur, and it appears that, proceeding from the heights to the plains, benign tertian malaria is first of all prevalent and only then subtertian malaria. I am able to draw this conclusion from the fact that I came across two cases of benign tertian malaria—one patient being a European and the other a native—which must have started at an altitude of approximately 800 m.

I can put forward the following additional facts in support of my statement that the higher regions of the Usambara Mountains are free from malaria. The mountain-dwellers are not, like the coastal negroes, immune against subtertian malaria but are, on the contrary, very susceptible to it. When a person leaves the mountain for the first time and descends to the steppe or even to the coast, he is taken with a feverish illness which lasts 2 to 3 months and is accompanied by vomitings of blood. Judging by the description given me of this occasionally fatal illness, it can only be malaria. Once the illness has been overcome, the person in question can in future go the coast with impunity; he has now become immune. Only in exceptional cases does the illness afflict the same person a second or even a third time, but then it does so with reduced violence. The natives say that they get the illness by being stung in the plains by mosquitoes which do not exist in the mountain. The native name for mosquitoes in "m'bu" and the illness too they call "m'bu".

That which I am reporting here on the m'bu illness was told me by various people, by missionaries, other Europeans and the natives themselves, all in full agreement, so that I have no reason to doubt the accuracy of these statements. But I was still to find an opportunity of convincing myself of it by a really striking case. A man from the mountain accompanied me on an expedition to Kitivo, which is situated on the North-East foot of the mountain and is known to the natives as a hotbed of the m'bu illness. After an incubation period of 12 days he fell ill with true subtertian malaria; his blood contained numerous annular parasites and the course of his illness was fairly severe. Of the bearers who took part in the expedition, about 30 in all, not a single one fell ill. But they were all people who had originally come from the coast or had lived there a long time.

If the mountain-dwellers are not immune against malaria—which I take to be a fact—it follows that they find no opportunity in the mountain of acquiring immunity the natural way, in other words that there is no malaria in the mountain.

The additional fact that there are no mosquitoes in the mountain coincides with this. Individual mosquitoes are quite often carried up by the caravans of bearers, but they obviously cannot find there the conditions necessary to their continued existence, as they always disappear without having multiplied.

As a further proof of the absence of malaria in the Usambara Mountains, I should like finally to mention that, at Mlalo Mission, I saw four German children who had been born there and who were bursting with health and had never had fever, although the eldest was already $3\frac{1}{2}$ years old. Children are, however, especially susceptible to malaria, for during my stay in Dar es Salaam I was able to diagnose four cases of subtertian malaria among a dozen European children.

With the second factor prejudicial to health which is said to aggravate the European's residence in the Usambara Mountains, namely the danger of sunstroke, I had a similar experience as with the malaria. I found it considerably less prevalent than the descriptions given me at the coast had led me to believe.

A vacuum-thermometer can be used for measuring the effects of the sun; although this is not able to provide complete data regarding all the effects of the sun's rays, it does at least register figures for the rayed warmth of the sun, figures which, if registered at various places, can be compared with each other.

I therefore took a similar instrument with me to the Usambara Mountains and had it read regularly at a suitable place over a period of several weeks, while at the same time another thermometer of this type was being read in Dar es Salaam.

In Usambara the thermometer reached a maximum of 52-54° over midday; only very rarely did it rise to 57°.

In Dar es Salaam, on the other hand, the highest temperatures remained constantly at 62-66°.

The temperature of the sun was not therefore, as had been assumed, higher in the mountain than at the coast, but about 10° lower.

The temperature readings obtained with the aid of such a vacuum-thermometer at Kenilworth near Kimberley, South Africa—a year previously, it is true, but at the same season—may serve further comparison. There, apart from a few cloudy days, the maximum temperatures fluctuated between 60-70°; on a few days, however, they exceeded 70° and one day even reached 75°. Despite this, the Europeans living there have hardly anything to fear from sunstroke. No-one anxiously protects his head by a topee, even while engaged in energetic work in the midday heat, and yet I have never heard of any harm caused by sunstroke. I am therefore convinced that the danger of sunstroke in the Usambara Mountains is at least grossly exaggerated. That which was reported to me on the subject in the mountain itself was always interpreted in other quarters as malaria and malaria relapses.

As far as the climate of the Usambaras is otherwise concerned, it can be called very aggreable and salubrious. The air temperature never exceeded 25° during my stay there, that is during the hottest season. At night it fell to 12° and even 10°. The mornings and evenings are cool—for the inhabitants of the tropics almost too cool. But it is precisely these variations in temperature which have a very refreshing effect and protect the European against enervation which can so easily occur as a result of the unchanging warmth in tropical coastal regions. In the cold season the temperature as a whole is a few degrees lower and the daily variation is somewhat less. The minimum air temperature then falls to 6-8°. For as long as meteorological observations have been made, the temperature has not yet fallen below 6°. As a result of the considerable cooling-off in the night, the humidity content of the air increases during the evenings and nights. But as soon as the sun appears, the humidity of the air decreases and towards midday falls to 50% and 40%; these are the conditions to be found everywhere in the mountain climate. Persistent mist, which is so prevalent in tropical mountains and can spoil permanent settlement there, and in certain circumstances even make it impossible, is not to be found in the interior of the Usambara Mountains; only at some of the outer peaks does mist apparently become annoying.

From the point of view of health, I should like to stress that the mountain is rich in good wells. Everywhere in the mountains I had the pleasure, so very rare in the tropics, of being able to drink crystal-clear, cool water drawn from wells and streams.

All these observations convinced me that, at a height of 1.200 m. and over, the Usambara Mountains are, as regards health, eminently suitable for European settlement.

Nor are there any valid objections to the establishment of a sanatorium in West Usambara as long as there are no other grounds against it, such as the distance from the coast and consequent difficult access. I should like to draw attention to one more point; with regard to the sanatorium, one must abandon an illusion which has hitherto been held generally and even by me. It is assumed that, in a sanatorium situated at high altitude and, what is more, in a malaria-free district, malaria would take a mild course, that very stubborn cases would easily be cured and that there would be no

relapses. Unfortunately this is not so. My researches into malaria in West Usambara have shown that in the high mountain regions malaria does not alter its character at all, that the attacks are just as severe as at the coast and can be equally fatal. Relapses are just as frequent in the higher regions of the mountain as in the plains, and convalescence, too, does not progress any quicker in the mountain than at the coast. As far as malaria is concerned, there is therefore no advantage in establishing a sanatorium in these higher regions.

If the settlement of the mountain is to succeed in the present circumstances, certain conditions at least must be realised.

Above all the immigrants must be conveyed to the mountain in such a manner that they do not become infected with malaria either during their inevitable stay at the coast or on their way to the mountain. My own expedition proves that this is possible. Taking part in it were four Europeans of whom only one fell ill, and he very probably had a relapse and not a fresh attack of malaria. Both shortly before and immediately afterwards five Trappists had travelled the same route and all had fallen ill.

Furthermore, adequate medical aid must be placed at the disposal of the mountain-settlers so that if, despite all precautions, someone gets malaria on arrival, the illness is quickly and safely overcome.

Were these precautionary regulations to be disregarded and immigration allowed to proceed at random, that state of affairs and these disasters which I have reported from Gare Mission might be experienced again.

According to all appearances, German East Africa still has extensive areas offering similar conditions to the Usambara Mountains and which are probably suitable for absorbing part of the stream of immigrants which flows abroad from Germany every year and which now represents a permanent loss to the mother-country. It would be a good thing if in due course these strips of land could be investigated, with a view to determining their suitability for healthy settlement, just as has been done in West Usambara.

Sgd. KOCH.

The Habitat-distribution of the Birds of Northern, Eastern and Central Tanganyika, with Field Keys.

PART II. BIRDS OF CULTIVATIONS AND TOWNSHIPS.

By N. R. Fuggles-Couchman, M.B.O.U.

The bird population within cultivated areas and townships is mainly an attenuated form of the birds of the original habitat before it was modified by man, and which generally still surrounds the fields and houses. Exceptions to this rule occur where fields have been won at the expense of evergreen forest, when "all the birds of that biome disappear completely from the cultivated areas, even as visitors" (Moreau 1937-38), and in the case of thicket, where many of the birds disappear, although some remain as foraging visitors.

Thus while there may be said to be a resident population, making use of unfelled trees, waste land between fields, and furrows and streams passing through them, cultivated land and the crops thereon only form a congregating and feeding place, and give shade during the heat of the day. I have found crop plants used for nesting sites but this is rare and the bird population of crops *quae* crops is almost entirely a visiting one, increased during the passage of migrants by birds resting and feeding up for their long journeys.

Townships, with their great variety of natural and artificial habitats have both attracted birds and kept a surprisingly large number of these from the virgin country in which the towns were set. Dar es Salaam is particularly rich in birds. The eaves of numerous buildings attract swallows and swifts for nesting: the many trees and the park-like Botanic Gardens hold numerous species such as doves, fly-catchers and babblers, members of the thrush family, shrikes and others. Waste patches have their waxbills and fire finches.

Naturally the more closely settled and the larger the township, the fewer birds will be found, but most African townships include within their boundaries plenty of untouched, or almost untouched Africa, and birds from those habitats filter into gardens.

The adaptation of swifts and swallows to domestic buildings is interesting. In the normal way, these birds nest in cliffs and great rocks, sticking their mud nests to sheltered faces.

Because the birds of cultivations are essentially those of the surrounding habitat, I do not propose to make a separate list for them. I have, however, thought it worth while to list and give a field key for those which have been recorded from Dar es Salaam, Tanga, Moshi and Arusha. Birds which I have not recorded in Dar es Salaam are given in brackets; those noted in Tanga, Moshi and Arusha have the suffix T, Mo and A. Migrants are marked M.

LIST OF BIRDS.

GROUND BIRDS.

Mixed Diet.

(Bare-eyed Thrush	*Turdus tephronotus)* T

Insectivorous

Fischer's Sparrow-Lark	*Eremopteryx leucopareia*
Pied Wagtail	*Motacilla vidua*
Richard's Pipit	*Anthus richardi*
Yellow-throated Longclaw	*Macronyx croceus*

BIRDS OF BUSHES AND SHRUBS

Mixed Diet.

Buff-breasted Sunbird	*Cinnyris venustus*
Red-chested Sunbird	*Chalcomitra senegalensis*
Collared Sunbird	*Anthreptes collaris*

Insectivorous

White-browed Coucal	*Centropus superciliosus*
Little Bee-eater	*Melittophagus pusillus*
Arrow-marked Babbler	*Turdoides jardinei*
White-browed Robin-Chat	*Cossypha heuglini*
Morning Warbler	*Cichladusa arquata*
(Green-backed Glasseye	*Camaroptera brevicaudata)* Mo
Boubou Shrike	*Laniarius ferrugineus*
Black-headed Tchagra	*Tchagra senegala*
Brown-headed Tchagra	*Tchagra australis*

Seed-eater

Yellow-fronted Canary	*Serinus mossambicus*

BIRDS OF TALL GRASSES AND SHRUBS

Insectivorous

(Trilling Grass-warbler	*Cisticola woosnami)* Mo
(Singing Grass-warbler	*Cisticola cantans)* Mo
Red-faced Grass-warbler	*Cisticola erythrops*
Tawny-flanked Long-tail	*Prinia mistacea*
(Moustache Warbler	*Melocichla orientalis)* Mo

Seed-eaters

Fire-crowned Bishop	*Euplectes hordacea*
Yellow-and-black Bishop	*Euplectes capensis*
Zanzibar Bishop	*Euplectes nigroventris*
Bronzy manikin	*Spermestes cucullatus*
Rufous-backed Manikin	*Spermestes nigriceps*
Blue-bill Fire-finch	*Lagonosticta rubricata*
Common Waxbill	*Estrilda astrild*
Red-cheeked Cordon bleu	*Uraeginthus bengalus*
Cordon blue	*Uraeginthus angolensis*
Pintail Whydah	*Vidua macroura*

BIRDS OF TREES

Mixed Diet.	
Vulturine Fish-Eagle	*Gypohierax angolensis*
Hammerhead Stork	*Scopus umbretta*
Abdim's Stork	*Sphenorhynchus abdimi*
(Lizard Buzzard	*Kaupifalco monogrammicus)* T
South African Hoopoe	*Upupa africana*
Geelgat or Yellow-rumped Bulbul	*Pycnonotus tricolor*
Golden Oriole	*Oriolus auratus*
Black-headed Oriole	*Oriolus monacha*
(Violet Starling	*Cinnyricinclus leucogaster)* Mo
Insectivorous	
(Red-chested Cuckoo	*Cuculus solitarius)* Mo: A: (M)
Didric Cuckoo	*Lampromorpha caprius*
(Emerald Cuckoo	*Chrysococcyx cupreus)* Mo
Stripe-breasted Kingfisher	*Halcyon chelicuti*
Carmine Bee-eater	*Merops nubicus* (M)
White-throated Bee-eater	*Aerops albicollis* (M)
Red-billed Wood Hoopoe	*Phoeniculus purpureus*
Palm Swift	*Cypsiurus parvus*
Spotted Flycatcher	*Muscicapa striata* (M)
(Little Flycatcher	*Alseonax minimus)* Mo
Chin-spot Flycatcher	*Batis molitor*
Wattle-eyed Flycatcher	*Platysteria peltata*
Paradise Flycatcher	*Tchitrea viridis*
(Red-faced Crombec	*Sylvietta whytei)* Mo
Fork-tail Drongo	*Dicrurus adsimilis*
(Fiscal Shrike	*Lanius collaris)* Mo: A.
Puff-back Shrike	*Dryoscopus cubla*
Grey-headed Shrike	*Malaconotus poliocephalus*
(White-eye	*Zosterops senegalensis)* Mo.
Seed-eaters	
Blue-spotted Wood-Dove	*Turtur afer*
Cape Dove	*Streptopelia capicola*
Red-eyed Dove	*Streptopelia semitorquata*
Yellow-collared Lovebird	*Agapornis personata*
(Reichenow's Weaver	*Ploceus reichenowi)* Mo: A.
(Speke's Weaver	*Ploceus spekei)* A.
Spectacled Weaver	*Ploceus ocularius*
Spot-backed Weaver	*Ploceus nigriceps*
Fruit-eaters	
Green Pigeon	*Vinago sp.*
Speckled Mousebird	*Colius striatus*
(Spot-flanked Barbet	*Tricholaema lacrymosum)* Mo
(White-eared Barbet	*Buccanodon leucotis)* A
Red-fronted Tinker-Bird	*Pogoniulus pusillus*
Golden-rumped Tinker-Bird	*Pogoniulus bilineatus*

Scavengers or Birds of Prey

White-backed Vulture	*Pseudogyps africanus*
Hooded Vulture	*Necrosyrtes monachus*
Kite	*Milvus migrans*
Bat-eating Buzzard	*Machaeramphus anderssoni*
Pied Crow	*Corvus alba*
(White-necked Raven	*Corvultur albicollis)* Mo: A

BIRDS PARTICULARLY ASSOCIATED WITH HOUSES

Insectivorous

Square-tailed Swift	*Micropus affinis*
Abyssinian White-rumped Swift	*Micropus caffer*
Wire-tailed Swallow	*Hirundo smithii*
Mosque Swallow	*Hirundo senegalensis*
Stripe-breasted Swallow	*Hirundo abyssinica*
(Red-throated Rock-Martin	*Ptyonoprogne rufigula)* Mo: A

Seed-eater

Grey-headed Sparrow	*Passer griseus*

Carnivorous

African Barn Owl	*Tyto alba*

FIELD KEY

Main divisions

I. No Red, Violet, Blue, Yellow or Green in Plumage

A. Upperparts brown, from drab to chestnut ... ... p.
B. All black plumage ... ... p.
C. Black and white plumage ... ... p.
D. Slate or dove-grey upperparts ... ... p.
E. Very mottled, pale buff, grey and white ... ... p.
F. Pale brick-red ... ... p.

II. Some Red, Violet, Blue, Yellow, or Green in Plumage

A. Red in plumage ... ... p.
B. Glossy violet ... ... p.
C. Blue in plumage ... ... p.
D. Yellow in plumage ... ... p.
E. Green in plumage ... ... p.

I. No Red, Violet, Blue, Yellow or Green in Plumage

A. Upperparts brown, from drab to chestnut

a Tails noticeably long in relation to body

ai Tail broad, black; wings and back bright brown; underparts buffish white with streaks on throat; strong white eyebrow. Body pigeon-size. — *White-browed Coucal*

bi Tail very long, stiff and thin; head with pointed crest; above dull brown, below dusky to pale ochraceous, breast finely barred. Body sparrow-sized. — *Speckled Mousebird*

ci Tail with two very long, lax feathers

1. Back, wings and tail bright chestnut; head and underparts dark slate — *Paradise Flycatcher, (male) chestnut phase*

2. Back, wings and tail white; head and underparts dark slate — *The same, white phase*

b Tails not noticeably elongated

ai Very large. Face bare; bill long and hooked.

aii Bare parts of face and neck black; plumage chiefly pale brown, lower back and rump white — *White-backed Vulture*

bii Bare face red; plumage chiefly chocolate brown — *Hooded Vulture*

bi Large

aii Plumage entirely brown

aiii Head with heavy backward pointing crest; long bill and long legs black. — *Hammerhead Stork*

biii No crest; tail forked; hawk like — *Kite*

bii Brown with broad white line above and below eye; white on throat. Crepuscular habit. — *Bat-eating Buzzard*

ci * Thrush size

aii Uniform sepia-brown plumage, darker above; conspicuous arrow-shaped white marks on chin, throat and breast; iris yellow. — *Arrow-marked Babbler*

bii Upperparts brown, underparts vinous, grey or white

aiii Tail black, white tipped; wings chestnut; underparts grey

aiv Black crown, strong white eyebrow — *Black-headed Tchagra*

biv Brown crown, strong white eyebrow — *Brown-headed Tchagra*

biii Tail dusky or brown, no white tips

aiv Crown and sides of face almost black; throat and breast brown; abdomen white; vent yellow — *Yellow-vented Bulbul*

biv Crown grey, forehead white; throat and breast vinous; steel-blue spot on wing; lower back with two black transverse bars; Dove-like — *Blue-spotted Wood-dove*

* More or less than

di * Sparrow size
- aii Uniform brown plumage
  Swallow-like with square tail; white spots on tail; throat and chest washed pinky-brown — *Red-throated Rock Martin*
- bii Chiefly brown upperparts, underparts partly or wholly white, buff or grey
  - aiii White streak or patch on side of head
    - aiv Broad white line behind eye to sides of neck; upperparts, throat and chest dark brown; abdomen white — *White-eared Barbet*
    - biv White patch on side of face; eyebrow, front of face, throat and sides of neck black; crown rufous — *Fischer's Sparrow-lark*
    - civ White eyebrow and line from base of bill, the latter bordered below by a black moustache line; rufous brown forehead and rump; below pale tawny with white abdomen — *Moustache Warbler*
  - biii No white on side of head
    - aiv Chest streaked or with necklace
      - av Chest streaked brown on white; upperparts striped; outer tail feathers white; tail rather long. — *Richard's Pipit*
      - bv Sides of throat, breast and flanks streaked with brown; upperparts plain except for slight streaking on crown; tree bird. — *Spotted Flycatcher*
      - cv Black necklace; wings, rump and tail rufous; breast ashy, abdomen buff. — *Morning Warbler*
    - biv Chest plain
      Head and nape slate grey; rump bright rufous; underparts ashy-grey with white throat. — *Grey-headed Sparrow*

ei Distinctly small birds, less than Sparrow-size.
- aii Head black, upperparts brown. Back and wings chestnut, head and throat black; rump barred black and white; abdomen white. — *Rufous-backed Manikin*
- bii Head and upperparts brown.
  - aiii Underparts uniform dirty brown; upperparts dusky brown. — *Little Flycatcher*

* More or less than

biii Chest brown, rest of underparts white.
Crown dark brown with bronze sheen; back and wings paler brown; rump transversely barred dusky and white. *Bronzy Manikin*

ciii Underparts white, somewhat washed tawny.
aiv White eyebrow.
Uniform brown back, underparts washed tawny; tail distinctly long in relation to body; when perched often carried almost erect. *Tawny-flanked Long-tail*

biv No white eyebrow.
av Black spot below white spot between eye and bill. Uniform brown upperparts; below whitish, somewhat washed tawny or grey. *Singing Grass-warbler*

bv No black or white spot between bill and eye.
avi Side of face and forehead rufous. Uniform brown back; underparts white strongly washed tawny with white chin and centre of abdomen. *Red-faced Grass-warbler*

bvi Crown only with rufous wash. Uniform brown back; below silky white only very slightly washed rufous. *Trilling Grass-warbler*

B. ALL BLACK PLUMAGE

a Tail very long
Body thrush size; bill long, red, decurved; plumage glossy; white spots in tail. *Wood-Hoopoe*

b Tail not noticeably long.
ai Swallow or Swift-like
Long thin curved wings; tail deeply forked, appearing very pointed when closed. *Palm Swift*

bi Thrush size
Glossy black plumage; tail slightly but very distinctly forked. *Fork-tailed Drongo*

C. BLACK AND WHITE PLUMAGE

a Large birds.
ai Legs long and Stork-like
General colour above black; back and rump white; neck glossy purple; rest of underparts white; legs red. *Abdim's Stork*

bi Legs not noticeably long.
aii Whole head and nape white. Black only on wings and tail; much white in wing, and tail white tipped; rest of plumage white; heavy yellow bill. *Vulturine Fish-Eagle*
bii Head black; broad white band on hind neck.
aiii White confined to band on neck; rest of plumage black. *White-necked Raven*
biii Breast, abdomen and upper back also white. *Pied Crow*

b * Thrush and * Sparrow-size.
ai Tails very long.
aii Body small thrush-size; tail stiff, graduated. Forehead, crown and back black; rump grey; wings black with white spot; tail black with white tips to most feathers; underparts white. *Fiscal Shrike*
bii Body less than Sparrow-size; tail very long and lax. Upperparts black; rump white; black wings with white bar; face and neck and underparts white. *Pin-tailed Whydah (male) Breeding dress*
bi Tails not disproportionately long.
aii Black or chestnut collar on chest.
aiii * Sparrow-size.
aiv Pied plumage, tail rather long and constantly wagged; broad black band on chest; birds of human habitations. *Pied Wagtail*
biv No white on back; plumage glossy. A small red wattle in front of eye; underparts white with narrow black band on chest, or all throat blue-black. *Wattled Flycatcher*
biii Smaller than Sparrow. Upperparts dark grey to black; black line through eye; white bar along wing; chestband black in male, chestnut in female; rest of underparts white. *Chin-spot Flycatcher*
bii No band on chest.
aiii Very noticeable white patch on lower back and/or base of tail.
aiv Underparts white.
av Underparts pure white; pure white feathers on back often raised like a powder-puff; crown, nape, tail black; wings black with white edges to feathers. *Puff-back Shrike*

* More or less than

bv Underparts white washed pinky-buff White patch on lower back washed with grey and black; rest of upperparts and wings black (The Moshi birds have a small white patch in wing). *Boubou Shrike*

biv White on underparts confined to chin and throat.

av Tail square and short; wings narrow and curved. Entirely black except for white patch at base of tail and on chin and throat. *Square-tailed Swift*

bv Tail strongly forked, otherwise similar to the foregoing. *Abyssinian White-rumped Swift*

D. SLATE OR DOVE-GREY UPPERPARTS

a Hawk size.

Above slate-grey; white band on rump, in centre and at tip of tail; black line down centre of white throat; chest grey; rest of underparts barred grey and white. *Lizard Buzzard*

b Dove size.

ai Tail elongated.

Above very dark grey; tail black with white tips. Deep rusty-red patch on grey chest; rest of underparts buff banded with black. *Red-chested Cuckoo*

bi Tail not noticeably elongated.

Doves with black crescent on back of neck.

aii No white on chin and throat.

Head, neck and chest deep vinous pink. *Red-eyed Dove*

bii White chin and throat.

Head, neck and chest pale vinous grey. *Cape Dove*

c Thrush-size.

ai Underparts bright chestnut. Bill and feet black. Marked white line over eye; black crown and side of face; tail chestnut with central feathers and wings dark slate. *White-browed Robin-Chat*

bi Underparts rufous only on abdomen. Bill and feet yellow or orange.

Bare space round eye yellow; throat streaked dusky on white; chest grey. *Bare-eyed Thrush*

d Very small.

Very short tail, bird having tailless appearance; upperparts pale slatey grey; sides of face and underparts rufous. *Red-faced Crombec*

E. VERY MOTTLED PALE BUFF, GREY AND WHITE PLUMAGE

Large, Owl-like, chiefly dusk and night bird, giving impression of very pale plumage. — *Barn Owl*

F. PALE BRICK-RED * THRUSH-SIZE

Very long crest; bill long and decurved. Black tips to crest feathers; black flight feathers; broad band of white across black tail. — *Hoopoe*

II. Some Red, Violet, Blue, Yellow or Green in Plumage

A. RED IN PLUMAGE

a Red and black only.

ai Red confined to broad band on chest; less than Sparrow-size.
Small, glossy black with green sheen; fine rather long decurved bill. — *Red-chested Sunbird*

bi Whole upperparts bright orange-red. *Sparrow-size.

aii Entirely black underparts. — *Zanzibar Bishop*

bii Throat and chest red like back; rest of underparts, chin and sides of face black. — *Fire-crowned Bishop*

b Glossy carmine.
Starling-size; whole of wings, tail and underparts carmine; head glossy green; lower back pale blue; central tail feathers elongated. — *Carmine Bee-eater*

c Red confined to forehead only.
Half Sparrow-size. Upperparts glossy black, underparts white; yellow rump; white streaks on neck and above and below ear coverts. — *Red-fronted Tinkerbird*

d Deep crimson head and underparts.
Very small; wings and back brown; tail black; white spots on side of breast. — *Fire-finch*

e Red confined to streak through eye and red bill.
Very small; above yellowish brown, underparts paler with streak of pale pink down centre of abdomen. — *Common Waxbill*

B. GLOSSY VIOLET

Whole of upperparts and throat glossy violet; rest of underparts pure white.
N.B.—The female is much duller, dusky above, streaked dusky on white below. — *Violet Starling (male)*

C. BLUE IN PLUMAGE

a Bill long, black with red base; Kingfisher-like.
Lower back, rump and tail light blue; some blue in wings; crown brown; white eyebrow and collar round hind neck; underparts white streaked with black. — *Stripe-breasted Kingfisher*

* More or less than

b Deep glossy blue back with rufous—Swallows.
ai Rufous confined to crown.
Whole of underparts pure white: two outer tail feathers elongated into fine shafts. *Wire-tailed Swallow*
bi Rufous rump.
aii Head rufous, underparts white with dusky streaks. *Stripe-breasted Swallow*
bii Head blue; white throat, rest of underparts rufous. *Mosque Swallow*
c Pale powder-blue underparts, very small.
ai Red spot behind eye; upperparts sepia brown; tail, rump and underparts powder blue. *Red-cheeked Cordon-bleu*
bi No red spot behind eye; colour similar to the foregoing. *Cordon-bleu*
d Glossy greeny-blue back: bright yellow underparts, very small. Bill somewhat elongated; decurved; throat and chest glossy purplish blue. *Buff-breasted Sunbird*

D. YELLOW IN PLUMAGE
a Black ring on breast.
Underparts deep yellow; upperparts brown; white-tipped tail in flight; a ground bird. *Yellow-throated Longclaw*
b No black ring on breast.
ai * Thrush-size.
aii Yellow confined to vent.
Crown dark brown; upperparts brown; underparts dirty white. *Yellow-vented Bulbul*
bii Yellow abdomen.
aiii Head and throat glossy green. Upperparts glossy green. *Emerald Cuckoo*
biii Head and throat black.
Upperparts pale greenish-yellow; some black in wings and tail. *Black-headed Oriole*
ciii Entire plumage golden-yellow except for black centre to tail, black in wings, and black line through eye *Golden Oriole*
diii Underparts yellow with chestnut patch on chest.
Crown, neck and sides of head slate-grey; back, wings and tail green. *Grey-headed Bush Shrike*
cii Yellow only on chest, breast and upper back.
Plumage bright green; head and throat black; bill red, parrot like. *Yellow-collared Lovebird*
bi * Sparrow-size.
aii Yellow underparts.
aiii Back spotted black and yellow.
aiv Crown golden-yellow.
Black bib on chest edged chestnut; black sides to face. *Speke's Weaver*

* More or less than

biv Crown, sides of head, throat and bib black. Yellow collar at back of neck. *Spot-backed Weaver*

biii Nape and back black. Forehead chestnut-yellow; no black on underparts. *Reichenow's Weaver*

ciii Back grass-green. Crown golden-brown; black spectacle through eye and black bib. *Spectacled Weaver*

bii Yellow confined to lower back, rump and wings.

aiii Underparts black throughout Rump and lower back a yellow puff-ball; yellow bar on wing; remainder of plumage black. *Yellow-and-black Bishop*

biii Underparts white with black spots on flank; black chin. Yellow confined to streaks in rump and wings; glossy black head and nape, with broad white eyebrow and white line below eye. *Spot-flanked Barbet*

ci Smaller than Sparrow-size.

aii Yellow underparts throughout.

aiii Distinct broad white ring round eye. Upperparts greenish-yellow; very small. *Yellow White-eye*

biii No white ring round eye. Conspicuous yellow forehead and eyebrow with yellow cheeks, separated by dusky band through eye; yellow rump; upperparts dusky, stripy in appearance, the wings with double yellow band. *Yellow-fronted Canary*

bii Underparts yellow with glossy violet or green on chin or throat.

aiii Throat metallic violet, terminated by black band. Upperparts dark glossy green-blue; bill long, decurved. *Buff-breasted Sunbird (male)*

biii Throat metallic green, bordered by violet band. Upperparts metallic grass-green, bill short and decurved. *Collared Sunbird (male)*

E. GREEN IN PLUMAGE

a Pigeon-size. Upperparts bright green; head and neck greyer. Underparts olive green, with a little yellow on abdomen; bill white, cere and feet coral-red. *Green Pigeon*

b * Thrush-size.
  ai Yellow underparts.
    aii Upperparts, neck and chest bright metallic emerald-green; remainder of underparts yellow; white tips to tail feathers. *Emerald Cuckoo*
    bii Crown, back and sides of head slate-grey; back, wings and tail green; all underparts yellow except for chestnut patch on chest. *Grey-headed Bush Shrike*
  bi Underparts mainly green.
    aii Black band across base of white throat.
    Bill long; centre tail feathers elongated; upperparts generally light green; crown black; forehead and line above eye white; underparts washed light green. *White-throated Bee-eater*
    bii Yellow chest, breast and upper back.
    Head and throat black; rest of upper and underparts bright green; bill red, parrot-like. *Yellow-collared Lovebird*
  ci Underparts white with green bars on sides.
  Upperparts metallic green with coppery sheen; eyebrow white; sides of face, neck and underparts white, barred green on sides; tail green, tipped white. *Didric Cuckoo*
c * Sparrow-size.
  ai Upperparts bright grass-green.
    Bill long; black collar on foreneck, with chestnut surrounding lower edge; throat yellow; black line through eye; white tips of tail preceded by a broad black band; underparts greenish-cinnamon. *Little Bee-eater*
d Smaller than Sparrow-size.
  ai Back or wings green with no other obvious bright colour.
    aii Nape, back and tail grass-green; crown ashy grey; wings dusky; underparts greyish white; a narrow yellow edge to wing (Dsm.) *Zanzibar Glasseye*
    bii Head, back and tail dark slatey-brown; wings olive-green; underparts dull grey (Northern Province). *Grey-backed Glasseye*
  bi Upperparts metallic green or blue-green; underparts chiefly yellow.
    aii Throat metallic violet terminated by black band; upperparts dark glossy green-blue; bill long, decurved. *Buff-breasted Sunbird (male)*
    bii Throat metallic green bordered by violet band; upperparts metallic grass-green; bill short and decurved. *Collared Sunbird (male)*

* More or less than

BRIEF FIELD NOTES

(Birds in Order of appearance in Key)

WHITE-BROWED COUCAL. The Water-bottle bird. Call a series of descending round notes ended by a few rising notes. Contrast of *long black tail* and *chestnut back* most marked.

MOUSEBIRD. Call a series of six notes, the last four descending. Generally in small parties: a considerable nuisance in gardens. Swift, arrowlike flight, often gliding: *Stiff, long, thin tail* and *pointed crest* noticeable.

PARADISE FLYCATCHER. Harsh scolding alarm note, but has loud pleasant short excited song. Noticeable feature the *bright chestnut plumage* and *long lax tail* feathers.

WHITE-BACKED VULTURE. A large Vulture with thick heavy bill: dirty white woolly back of neck: in flight adult shows *white leading edge* to wing and *light abdomen* (See North's "A field guide to the Scavenging Birds of Kenya.")

HOODED VULTURE. A small Vulture with slender bill: *down covers neck and crown, giving hooded effect*: in flight *uniform dark underwing and body* with pale head.

HAMMERHEAD STORK. Generally seen singly: curious shape of head, with *broad backward pointing crest* immediately noticeable. Has habit of turning head to look at intruder with one eye, hence African saying that the bird has only one eye.

KITE. Call a frequent mewing note. In flight the rather long *forked tail* immediately distinguishes it: common scavenger in harbours, and in urban areas: wheeling, soaring flight with sudden twists and swoops.

BAT-EATING BUZZARD. Rare: recorded in Dar es Salaam. *Crepuscular* in habit, feeds on bats and has rapid agile flight.

ARROW-MARKED BABBLER. *Gregarious, very noisy,* with harsh scolding call. Moves through bushes and cover in small parties with constant chatter.

BLACK-HEADED TCHAGRA
BROWN-HEADED TCHAGRA. Both Shrikes are very similar except for difference of crown colour. Very common in gardens: have a loud cheerful whistle which may be rendered "How dye do Willie", repeated three or four times, or "Mind yer coat Joey". Sometimes sings in flight: *strong white eyebrow* very noticeable.

YELLOW-VENTED BULBUL. Extremely common: perky and restless: found in all types of country except deep forest, and very common in gardens: somewhat thrush-like in habits and size but only a moderate songster: song may be rendered "chup chup chup do be quiet", heard chiefly morning and evening. *Drab colour* with *small dark crest* and *yellow vent* noticeable.

BLUE SPOTTED WOOD-DOVE. Call a series of plaintive "hoo's". Africans transliterate as "Mama amekufa, baba amekufa, watoto wanakufa, hoo hoo hoo hoo hoo hoo." The first six or eight notes are "hoo-hoo" with a rest between, followed by a series of descending notes, run together and quickening to the end. A small brown dove seen generally on the ground. Blue wing-spot not very conspicuous.

RED-THROATED ROCK MARTIN. Local, infrequent: generally noticed gliding round building where nesting: *drab plumage* distinguishes it from common swifts and swallows, but good sight needed to see spot on throat.

WHITE-EARED BARBET. Call a harsh "mwaa": a bird of well-wooded country (Matombo: Arusha): *white sides to head* striking against dark plumage.

FISCHER'S SPARROW-LARK. Common in short grassland and on open areas in long grass. (Dar es Salaam Golf-course: Kurasini): sits close and when flushed flies only a short distance: generally small parties of three to five birds: contrast of *white cheeks* and *black throat* and *face* in male noticeable. The only small lark on the coast, found with Richard's Pipit, which has *long tail* and Yellow-throated Longclaw, with bright yellow underparts.

MOUSTACHE WARBLER. More often heard than seen, liking to remain in long grass. A rich short song resembling "ti tit turr twiree tur", the last two notes rising.

RICHARD'S PIPIT. Common in short grass areas of the coast or up-country, with *drab plumage*: has undulating flight, often rising in series of short climbs to drop suddenly to bush or stone: call a weak "che che che cheep" in flight.

SPOTTED FLYCATCHER. Seen only in northern winter: usually noticed as it flies from a twig to catch an insect and returning to the same perch: *drab upperparts* and *streaked breast noticeable*: rather smaller then a sparrow.

MORNING WARBLER. A member of the thrushes: a striking short liquid song of some four notes, heard only in early morning and evening: also a mellow whistle like a man's whistle to a dog: rather a skulker: when seen the *black circlet* on the ashy throat noticeable. Rather smaller than a thrush, of similar size to the Brownhead Tchagra, but *no white eyebrow and black throat circlet* distinguish this bird.

GREY-HEADED SPARROW. A house-bird like the European Sparrow. Habits very similar: the *grey head and nape contrast* with the brown back.

RUFOUS-BACKED MANIKIN.
BRONZY MANIKIN. Generally in small flocks of three to five: the *black head and throat* contrasting with *chestnut back* and *wings* distinguish the first from the similar Bronzy Manikin with *brown head*, with *bronzy gloss*, and *brown chest*: small weaver-finches, often seen feeding on seeds of small grasses.

LITTLE FLYCATCHER. Normally a bird of higher altitudes, seen in Moshi and Arusha. Habits much as the Spotted Flycatcher. A frequenter of gardens, and noticeable for its small size and insect catching on the wing.

BRONZY MANIKIN (see above).

TAWNY-FLANKED LONGTAIL. Very common as singles and pairs: chiefly among long grass: the *rather long, often frayed tail*, carried at an angle to the back when perched, is noticeable.

SINGING GRASS-WARBLER. A bird of higher altitudes: Moshi: a Cisticola, members of which genus are very difficult to identify: chiefly in long grass and shrubs: a short ringing call "hewee chewee"; wings snapped over back in flight. The *small black spot in front of the eye* is a good identifying character where it is found in Tanganyika Territory, with exception of southern areas.

RED-FACED GRASS-WARBLER. Another Cisticola, common in long grass areas, waste ground, etc. Characteristic call "chickweed": *rufous coloration of sides of head* a noticeable characteristic.

TRILLING-GRASS-WARBLER. A bird of higher altitudes. (Moshi). Call most characteristic, a sustained trill—"a soft-reeling sound trrrr....." continuous for 3-5 seconds" (Lynes). The most characteristic bird-sound round Moshi.

WOOD HOOPOE. Usually in pairs, or very small parties, searching bark of trees with *long decurved red bill*: flight weak and wavering: call a loud chuckling often given when two birds are sittting opposite one another on a branch, bowing back and forth to one another: *long graduated tail* noticeable.

PALM SWIFT. Common in areas of palm trees, particularly Dom Palms: very slender bodies with long narrow curved wings: flight rather indecisive and not as rapid as in other swifts: a uniform dull coloured bird.

FORK-TAILED DRONGO. Very common: call a few scratchy notes: the rather *long distinctly forked tail* and *glossy all black* plumage distinctive. Hawks insects from a perch, returning to the same spot, where it sits very still: often seen chasing birds of prey, crows, etc. Could be confused with the Black Flycatcher, a bird of the woodlands, which is distinguished by *square tail.*

ABDIM'S STORK. Almost invariably seen in flocks on passage generally January to March. Especially noticeable whenever locust swarms occur: *black and white plumage and red legs* and dark horn bill are particularly noticeable. Not to be confused with European Stork, a larger bird with *red bill.*

VULTURINE FISH-EAGLE. A most uncommon bird, reputed to occur in Dar es Salaam: its distribution is closely tied up with the occurrence of Oil Palms: small colonies known in the Usambaras and at Sanje, Ulanga District. Also recorded Morogoro (Mrs. Ruggles-Brise). The *large amount of white in plumage,* with *black only in wing and tail,* and the *long heavy yellow bill* noticeable characteristics.

WHITE-NECKED RAVEN. Not in Dar es Salaam: associated with rocky hilly country. Only bird with which it may be confused is the Pied Crow, but differs in that *white* is confined to broad band at back of neck. Common scavenger in Arusha and Moshi, Dodoma, etc. Known to detick resting cattle. A pest of groundnut crops.

PIED CROW. Very common in Dar es Salaam and elsewhere. Smaller than the preceding bird and has a *white breast and abdomen,* not black as in the Raven.

FISCAL SHRIKE. Northern Province: a very common bird, often perched on telegraph wires, and other conspiciuous places: *long black tail* and *short rounded wings* with rapid direct flight. In flight *white bar* on wing and *grey* rump very noticeable.

PIN-TAILED WHYDAH. Male assumes characteristic breeding dress, used in key: in non-breeding plumage—drab, small sparrow-like bird, similar to female: very common: *disproportionate size of small body* and *very long outer tail feathers* immediately draw attention to this bird: often seen in *dancing flight* as if tail feathers impeded progress. In non-breeding season seen in small flocks.

PIED-WAGTAIL. A domesticated bird very similar to British Wagtail: has a short little warbled song: long tail in constant wagging motion when perched: *pied plumage* with *broad black collar* on chest characteristic.

WATTLED FLYCATCHER. Uncommon: shy: *red wattles* below eyes readily seen and characteristic.

CHIN-SPOT FLYCATCHER. A very small bird rather prone to stay near the tops of trees: attention often drawn to it by its characteristic loud call "twirp twirp twirp" followed by snapping of bill: *black collar in male, chestnut in female* characteristic for bird of this size.

PUFF-BACK SHRIKE. Call a characteristic explosive "chipwiu", also a clicking call in flight: most characteristic feature is *very soft puff of white feathers at base of tail displayed in flight,* contrasting with black upperparts. Largely a bird of the tree tops.

BOUBOU SHRIKE. A skulker, more often heard then seen: very charactistic call, a duet with the female: three nasal notes. the first "whoor" by the male, followed immediately by "whoo whoo" about two tones lower, by the female. There are also other notes —a long drawn out "kwoor", and "phwee" long drawn out and repeated three times. In the Northern Province another race gives much richer bell-like notes in the duet.

SQUARE-TAILED SWIFT.
ABYSSINIAN WHITE-RUMPED SWIFT. Very common in all towns, especially Dar es Salaam. Rather difficult to differentiate. The first is communal: nests in colonies under eaves of buildings, nests glued together, of dry grasses, feathers, etc. Constantly seen in large parties in the air: often suddenly leave the nests together, fly round together for a short time and then start individual aerobatics. The second not gregarious and takes over the spouted mud nests of swallows. *Strongly forked tail* distinguishes from the first which has a short square tail: *white patch on rump* very noticeable in both.

LIZARD BUZZARD. Noted in Tanga. Pale grey back. Has a plaintive long drawn out call not unlike the Red-billed Wood Hoopoe in character. May be rendered "cheoo que-que-que-que-queo queo-queo" the first note rising, the remainder run together and drawn out towards the end. There are several small grey hawks with a white rump: this distinguished by *black line down centre of throat.*

RED-CHESTED CUCKOO. More commonly heard than seen: a persistent caller during the early rains and particularly in January and February. Call of three loud whistled ringing notes Tit
Tat
Too
on a descending scale, constantly repeated. On the wing the tail is noticeably long.

RED-EYED DOVE.
CAPE DOVE. These two birds are difficult to differentiate in the field. Calls totally different: the first is "tu tu tutututu" (Africans say "Kuku Mifupa tupu" and call the bird Tutu); the second "Kampala Kampala" repeated several times (or "Hows father, hows father":

African name Njiwa also onomotopaeic). The former is somewhat larger than the second: in flight when the tail is fanned the Cape Dove shows *clear white edge to outer tail feathers* and white "corners" at end of tail: there is no clear white in the upper surface of the tail feathers of the Red-eyed Dove. Both generally very common.

WHITE-BROWED ROBIN-CHAT. One of the best East African songsters. Considerable variety of notes, and much imitation of calls of other birds. The *sharp contrast* of the *slate wings* and *bright chestnut underparts* characteristic: *white eyebrow* also a marked feature in the field. Common phrases of song may be rendered:—"Put it 'ere, put it 'ere" rather explosively and run together quickly "Six-tickler six-tickler six-tickler" and "Pawnshops *not* here; pawnshops *not* here."

The tendency is for all three phrases to rise to the last syllable, and often start quietly, ending in crescendo.

BARE-EYED THRUSH (Tanga). Very thrush-like in habit, searching for food in short grass or on bare ground. *Bare yellow space round eye* very conspicuous, together with yellow/orange bill and feet.

RED-FACED CROMBEC. Very small and Wren-like. The *shortness of the tail, giving an almost tailless appearance,* characteristic. Creeps about bushes and trunks of trees somewhat like a Tree Creeper, searching for insects. Call a cheerful rattle of four syllables repeated frequently: also a little explosive "Zrrit zrrit zrrit".

BARN OWL. Call a startling screech: *very pale colour* almost white in some lights, characteristic. Chiefly a bird of the dusk and night.

HOOPOE. Unmistakable with its *dull brick* plumage and large *finger-like crest.* The call is a monotone "hoo-poo-poo", sometimes two notes only, rather plaintive, somewhat vibrant.

RED-CHESTED SUNBIRD. The contrast of the *broad red chest* band and the *black glossy plumage* very distinctive. A tame bird, which will hang its nests in lampshades in verandahs. Often seen probing large flowers for nectar and insects. Somewhat similar birds are the Black Sunbird *which has no red on chest,* but a purple throat, and the little Purple-banded Sunbird which has a *red band on chest* but is a dark glossy green above.

ZANZIBAR BISHOP.
FIRE-CROWNED BISHOP. Very closely allied with somewhat similar habits. The bright red-and-black plumage is the male breeding dress only: in the non-breeding season they are nondescript sparrow-like birds, similar to the females, and form up into flocks. Usually found in tall grass areas, particularly during the nesting season in the rains. At this time the brightly colcured

males fly fussily over their nesting territory with their red back feathers puffed up. The Zanzibar Bishop is smaller and has the *entire underparts black,* whereas the larger Fire-crowned Bishop has considerable red on the throat and chest.

CARMINE BEE-EATER. The brilliant glossy carmine plumage of this visitor to the coastal areas makes this bird unmistakable. Often to be seen perched on a telegraph pole or sisal pole, or flying round with sharp wing-beats and numerous twists and turns hawking insects, while frequently giving its fluted whistled note. When in flight the fine blue lower back shows in vivid contrast.

RED-FRONTED TINKER-BIRD. More usually heard than seen: a really small bird which sticks chiefly to the tree tops. Call a monotonous series of "pop's", several in number, rather rounded and not explosive. The call carries a considerable distance and the bird is difficult to spot in heavy foliage, particularly as its voice appears to have a ventriloquial quality. Common in Dar es Salaam.

FIRE FINCH. A little bird of the compound and garden, often in small flocks of five or six. The name Animated Plum (Belcher) is most apt, as the general impression of the cock bird's colour is a deep crimson and it is rarely still, always actively hopping or flitting from place to place, with a whirr of its wings when it flies.

COMMON WAX-BILL. There are several species of Wax-bill but this is the most commonly seen of these small birds. The *bright red bill,* with a *red stripe running back through the eye* is very noticeable. This is the only species of the most commonly seen Wax-bills in Tanganyika which *does not have a red rump.* Usually seen in small flocks of five or six, feeding on grass heads, or on bare ground.

VIOLET STARLING. The male is unlike any other bird in colour, a *brilliant glossy violet back* contrasting with *pure white underparts.* Usually seen in small parties of six to twelve, mixed with the dull coloured striped females. Call a mellow rather typical starling whistle.

STRIPE-BREASTED KINGFISHER. An insectivorous, not a fish-eating, member of the family. Calls attention to itself by a characteristic ringing call, starting with a few stuttered churring notes and breaking into a series of loud "cheerioh's". Can be distinguished from other similar Kingfishers less commonly seen by *striped breast and black bill,* red only at base: the others have red bills (vide Seashore and Woodland Sections). The bird is typically Kingfisher-like with its long sharp pointed bill and flat-looking head and its rapid direct flight.

WIRE-TAILED SWALLOW. The common tame little Swallow, making shallow mud cup nests under eaves and in verandahs. *Pure white underparts* and *rufous on crown only* distinguish this from

the other common Swallows round houses. The outer tail feathers have very fine long prolonged shafts. Distinguished from the European Swallow by white throat (European rufous) and all rufous crown (European rufous forehead only).

STRIPE-BREASTED SWALLOW. Another very familiar house bird, making the large mud retort-shaped nests under eaves or verandahs. The only Swallow in Tanganyika with striped underparts. The rump is rufous, in common with the next and other swallows in Tanganyika, but should not be confused if a glimpse of the striped breast can be had.

MOSQUE SWALLOW. A large rufous-rumped Swallow usually seen in pairs slowly planing round buildings in more open spaces in Dar es Salaam. Also a bird of the drier bush country, particularly where there are Baobabs. Calls attention to itself by a rather strident rasping call on the wing and when settled. The throat is *clear white* and most noticeable in flight.

CORDON BLEU.

RED-CHEEKED CORDON BLEU. Quite unmistakable—very small, tame birds of compounds and gardens, the *Cambridge-blue underparts* being characteristic. Another species occurs in dry thorn bush country with a blue crown. The two species under notice are alike except that the Red-cheeked has an easily noticeable *red patch* on the side of the head.

BUFF-BREASTED SUNBIRD (see below).

YELLOW-THROATED LONGCLAW. A lark-like bird, but a member of the pipit family, without the aerial song of a typical Skylark. Calls attention to itself by an often repeated drawn-out whistled "Jeeo wee" given from some prominent position. Has a fluttering weak flight when white tips to tail feathers show. The *rich yellow throat and underparts with black band on the chest* are distinctive, but in the Northern Province the Orange-throated Longclaw occurs, and could be confused. This latter has a *deep orange throat*, and only the centre of the underparts is yellow.

YELLOW-VENTED BULBUL (see above).

EMERALD CUCKOO. Call a ringing "Hello Judy", often repeated, from the top of a tree: the first and last syllables slightly higher than the second and third. There are three glossy green-backed cuckoos, this, the Didric and Klaas's. This species has *yellow* underparts, the other two white, the Didric being barred with green. The Emerald Cuckoo is particularly common in Moshi and Arusha.

BLACK-HEADED ORIOLE.

GOLDEN ORIOLE. Unmistakable yellow birds of thrush-size, calling attention to themselves by their loud mellow whistled "oriol." The

Black-headed also has a rather cat-like mewed note, long drawn out. The second bird is a much yellower bird than the first, having *no black on head or throat except* for a *black line through the eye.*

GREY-HEADED BUSH SHRIKE. Common in Dar es Salaam. Its loud whistled call is a characteristic bird sound of the gardens of the town. It is a rather long drawn out somewhat screeching whistle. There is also a display call of 3-4 notes just like a piece of wood bing drawn along iron railings, followed immediately by a lower pitched mellow "hawn". The *grey head and neck* contrast strongly with *green back* and *yellow underparts.*

YELLOW-COLLARED LOVEBIRD. A small parrot-like bird, common in Tanga township, from escapes from a previous trade in these birds, and to be seen on the Kurasini outskirts of Dar es Salaam. Usually in small parties: flight rapid and twisting: call a typical parrot screech. *Red bill contrasts with the black head and throat,* which in turn contrast with *bright yellow throat* and *green wings and underparts.*

SPEKE'S WEAVER. Northern areas: common in Arusha: a gregarious species building colonies of nests in tall trees: differs from the Spot-backed Weaver in having a golden crown, not black, but I have never seen the two together and do not believe they overlap. Reichnow's Weaver occurs in the same area but has no black bib and has all black back.

SPOT-BACKED WEAVER. Coastal district: gregarious, building large colonies of nests in coconut and other trees. Cannot be confused with other common weavers where it occurs with its *black crown* and *black-spotted* yellow back.

REICHENOW'S WEAVER. Northern areas: *not* fully gregarious, usually seen singly or in pairs although 2—3 pairs may nest in the same tree. Characteristically black-backed weavers, the male with a yellow front to the crown, the female with all black crown.

SPECTACLED WEAVER. Common, *not* gregarious. Nests solitary: a green-and-yellow weaver—black streak through eye and black bib characteristic with golden crown. Nests with long woven entrance spout.

YELLOW-AND-BLACK BISHOP-BIRD. Very easy to identify in breeding plumage: Sparrow-size, with *large puff of yellow feathers on the back contrasting* sharply with *all black plumage: in flight a yellow bar on wing.* A bird of tall grass, where it is constantly restlessly in fluttering flight over its breeding territory. Call a rather high-pitched "zeeeeeeeee".

SPOT-FLANKED BARBET. Sparrow-size, more often heard than seen. Call a monotonous long continued "tuck tuck tuck tuck.....",

about two per second. Could be confused in field with Brown-throated Barbet, but the latter has no spots on the flank. The *strong white eyebrow* and *white line below eye* are conspicuous and contrast strongly with black crown and nape.

YELLOW WHITE-EYE. Very small: gregarious in flocks up to 10 and 12. Conspicuous large ring of white round eye: has a pleasant light tinkling call like tiny bells. A bird of Northern and Central Province, not Dar es Salaam.

YELLOW-FRONTED CANARY. The smallest of the Serins of the Territory, common in Coastal Districts. Often caged: has a short, sweet, trilled song. *Side of face has two distinct yellow stripes, separated by dusky, with a dusky streak separating the lower from the yellow underparts.* Underparts have definite streaky appearance, dusky and dull olive green.

BUFF-BREASTED SUNBIRD.
COLLARED SUNBIRD. These two little birds are very similar and easily confused. The dark glossy blue-green back of the first and metallic violet throat, with distinctly long decurved bill should be noted in contrast with the metallic grass-green upperparts, green throat and short bill of the second. Commonly seen in gardens among Cannas and other large flowers.

YELLOW-RUMPED TINKER-BIRD. Rarely seen, but often heard. A truly tree-top bird with far carrying call, a continuously repeated series of four "pop's". Call similar in timbre to that of Red-fronted Tinker-bird, but the call of the latter is a continuous run of "pop's", not broken up into fours.

GREEN PIGEON. Unlike any other bird of its size: plumage has very smooth, almost velvet appearance. *Greyish head contrasts with dull olive of underparts and lighter green of back.* A bird of rapid and direct flight, making good shooting when disturbed from its favourite fig trees: call characteristic and un-pigeon-like —a rather harsh crooned "keree keree ker ree ker", not unlike a rusty gate hinge on which the gate is swinging in the wind.

EMERALD CUCKOO)
GREY-HEADED BUSH SHRIKE) See above.

WHITE-THROATED BEE-EATER. This bird visits Dar es Salaam from about December to March. The smallest of the long-tailed bee-eaters, the *centre tail feathers being noticeably produced beyond the end of the tail.* The *white throat* is characteristic, with the black band below. *Black crown* contrasts with the *pale green upperparts.* Call a fluted whistle, similar to that of other bee-eaters.

YELLOW-COLLARED SUNBIRD. See above.

DIDRIC CUCKOO. Characteristic call draws attention to this bird, heard from December to March. May be represented by "Her tee tee tititi", the notes rising, the first more stressed, the last three being hurried. About thrush size, *glossy green back* and *white underparts, barred with green* (vide Emerald Cuckoo.)

LITTLE BEE-EATER. The smallest of all the bee-eaters. Most usually noticed as it flies from a low perch to take an insect, planing back to its perch after a sharp turn, rather triangular wings outstretched, and looking like a small glider. *Bright yellow throat* contrasts with *chestnut ring* below and *bright grass green upperparts.*

ZANZIBAR GLASSEYE.
GREY-BACKED GLASSEYE. Retiring little birds rarely seen in the thick foliage of bush and thicket which they prefer. The first is coastal, the second Northern Province and inland. The calls are somewhat similar, a series of four notes repeated at intervals "tchwerp tchwerp tchwerp tchwerp", and a rather harder "cleb cleb cleb cleb" in the grey-backed bird. The first is a green bird on the back, with dusky wings—the second has green wings only.

BUFF-BREASTED SUNBIRD)
COLLARED SUNBIRD) See above.

HAMBAGEU, THE GOD OF THE WASONJO.

Recounted by Simeon Ndula, Head Messenger, Loliondo District Office; recorded by Gabriel N. S. Mavalla, of the Junior Service; edited and illustrated by H. A. Fosbrooke.

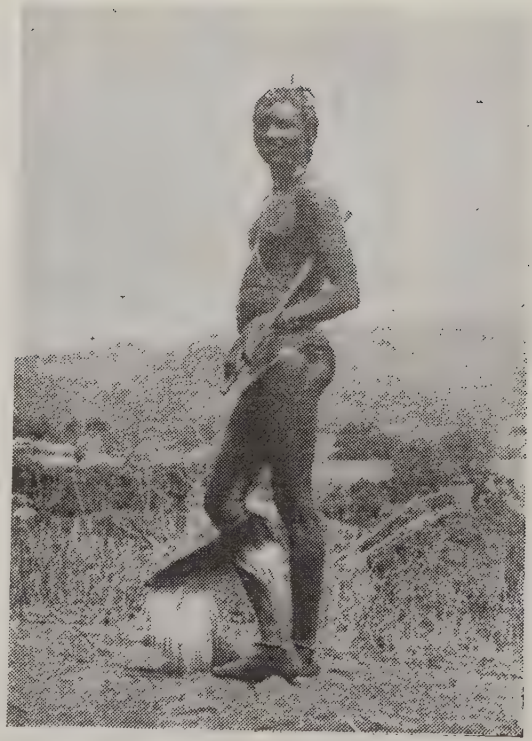
Once upon a time, in the small country of Sonjo, situated in the interior part of north-western Masailand in Tanganyika, there lived a man named Hambegu. This man is said to have come to the world automatically; and not through the natural way, i.e. birth. That is to say, he had neither mother nor father.

Hambageu was first seen by people of Sonjo at a place called "TINAGA"[1] in a state of poverty, dwelling in the millet farms chasing birds. After a number of years Hambageu succeeded in making his own hut in which he lived and kept five goats. It happened that the Tinaga inhabitants had to go on a fixed date to clean the water furrow when all grown-up men were summoned to attend. Although Hambageu was fully aware of the tribal work, he purposely ignored the call and did not attend. On the return of the villagers from the tribal work, it was ruled that Hambageu should be fined one of his five goats, which would be slaughtered and eaten by the men who went to dig furrow. This was unanimously agreed and accordingly carried out. The next day, the report was received that Hambageu still had his five goats, despite the fact that one had been slaughtered. This report was not at first accepted as true, but when it was confirmed the villagers of Tinaga were moved into serious pondering. A week later, the villagers proposed to go and dig the furrow again and if Hambageu again dishonoured the tribal work, he would be fined four goats, leaving him with only one. This was accepted and the date and time was fixed under advice to Hambageu.

The date became due and Hambageu refused to respond to the call and, on the return of the villagers, four goats were taken from him and slaughtered before the villagers, leaving him with only a single goat. The next morning, notification was received of the fact that, in the hut of Hambageu, the five goats were still alive. This second wile greatly perplexed the minds of the villagers, and after mature and exhaustive deliberation they resolved to assassinate Hambageu. A general meeting was convened and was fully attended. The meeting passed a strong resolution that Hambageu should at all costs be killed by strangulation. A certain number of people were chosen to carry out the order and were sent before the old men to swear that they would do it without fear. This was done and the date was fixed It was ruled that the selected men should visit the hut of Hambageu at midnight.

Well, fortunately Hambageu got wind of the plot. On the evening of his assassination. Hambageu slaughtered one of his goats and made a feast. After skinning it, he sent one of his best neighbours to call a certain old and blind woman, a widow, to come to his hut that very night. The neighbour complied with the request and went to the woman. After the

1 H. St. J. Grant, District Officer at Loliondo, has checked over the MS with Simeon Ndula and adds that a settlement of cultivators known as the Watinaga lived below Assorei near Mapeidur, where Trickhart's farm was—the hut sites being still visible.—Ed.



urgent invitation was explained to her she seemed greatly surprised, since Hambageu knew perfectly well that she was senile and blind and that she would not be able to walk during the night. She therefore justly refused to go. Her negative reply was accordingly passed to Hambageu, who picked up his "fly whisk," gave it to the neighbour and implored him to return immediately anl insist upon the woman's coming to his hut; he was to brush her eyes gently with the "fly whisk" and the woman would beyond doubt regain sight. This the neighbour complied with, and to his great astonishment the woman regained her sight and followed him to Hambageu's hut. After eating some goat's meat, Hambageu stood up and said—"Madam, I have called you here to pass this evening with me and please note that these bones are to be thrown by yourself at a place called Samunge (in Sonjo) this very night if you wish me to live long." This seemed a humble request and, since the woman had regained her sight quite unexpectedly, she promised to fulfil the order that same night and left Hambageu's hut for Samunge, carrying the bones.

Now the appointed hour of his assassination drew near. Hambageu started shivering and throwing himself here and there all over tthe house. A few minutes later, about midnight, a party of people arrived at his house carrying swords, clubs and huge sticks. They knocked on the door and shouted to Hambageu to open it and come out, shouting, "Come out, you devil—your last minute is at hand." Hambageu replied very gently, "Gentlemen, please allow me a lull to get dressed and I shall certainly come out to salute you." This was accepted. By this time Hambageu was planning the way to escape his death. He opened the door and before any of the invaders managed to hurt him, he made a very fast race about a distance of a mile and climbed a tall tree. The invaders chased him. When they reached the tree, they resolved to cut it down and set to work to do so. Hambageu kept quiet, consoling himself on one of the branches of the tree. When the tree was half cut, Hambagel with all of his strength jumped and made a very qick running. This action greatly terrified his opponents who still ran after him. This time Hambageu ran directly to Samunge—a great distance. Do not forget that it was still dark.

As by nature one escaping death is very good at racing, Hambageu ran thrice faster than his invaders. On arrival at Samunge village (where you will remember he sent the old lady to throw the bones) about dawn, he made an unusual sound, which awakened the Wasamunge, who promptly came to his rescue. The invaders were so far behind that he had ample time to relate the manner of his sudden appearance to the Wasamunge. All the Wasamunge felt sympathy for him and promised to give him their full support. The aggressors arrived and were surprised to perceive that Hambageu had already collected a sufficient body of people ready for attack. This time, Hambageu was seriously engaged in thoughts of the next action. It came to his mind that it was not a praiseworthy piece of policy if he would allow the neutral Wasamunge to fight the Watinaga.

Another thought came to him. He asked for guineafowl feathers, which were given to him. Still the Watinaga were at a standstill watching. By a trick with his fire stick he kindled the feathers and threw them at the Watinaga, who were wounded seriously and started dispersing one after another.[2] This act of blazing fire without the normal instruments

so astonished the Wasamunge that from that day they idolized Hambageu as the creator of the earth. They loved him tenderly and made him their God. The feud therefore ended and Hambageu made a permanent home in Samunge village.

In Samunge Hambageu earned a good reputation and also he got married there. According to available information, Hambageu is said not to have himself claimed to be God, but through his daily magical acts he astonished the people and, since he had neither father nor mother and as he himself could not explain how he came to the world, they considered him to be God. Hambageu lived in Samunge for a number of years and had many children. One day he called a meeting and stated that the number of his children was beyond his capacity and that he intended to curse them and change them into stones, excepting two of the sons. The Wasamunge resisted strongly yet he insisted on implementing his plan and did so and the children were turned into stone. This trick was done before the Wasamunge. All left the place (leaving Hambageu with his two chosen sons)—half dead.

A few years passed and Hambageu again decided to expel one of his two sons. The Wasamunge refused and beseeched him to listen to their advice, but he flatly refused. The second son was therefore dismissed from his house. The remaining son was named Aka. This Aka was loved tenderly by his father and both passed a very jolly life. By this time Hambageu had grown old and weak. Aka then carried on his father's activities—yet he could not display wonders.

One evening Aka invited the Wasamunge to a dance. While the dance was on Aka surprisingly flew directly into the sky like a bird and was seen no longer. It being night-time Hambageu was in bed. The people became afraid and started weeping. Their bitter cries awakened Hambageu. On appearing he observed that every dancer was lamenting bitterly. After enquiries of the cause of their crying he learned that Aka had disappeared for good. This distressed him so much that he thereupon decided to shift from Samunge.

After a week, Hambageu collected all his belongings and shifted to Belwa (near Magadi Soda Lake) in the village of Kisangiro within the chiefdom of Sonjo, where he settled.[3] While on the way, he met two girls (it was in the night) and instructed them that they should not tell of their meeting him to the Wasamunge until eight days had elapsed, which instruction the girls abode by. At the expiry of the eight days, (while the Wasamunge were busy seeking for their God) the two girls disclosed the news of Hambageu's departure for Belwa.

2 Grant adds:—The Watinaga not only fled from above Samunge pursued by the burning guinea-fowl feathers, but also deserted their village and departed, some to IKOMA, and some to live in Samunge and Digodigo Juu villages, where there is still a family or clan called the Wa-Tinaga—Ndura's mother is a Tinaga.—Ed.

3 Grant adds:—BELWA is a place lying between Oldonyo Sambu village and Nguruman, near Lake Magadi. It is said that Oldonyo Sambu villagers go to sacrifice goats there nowadays. Ndura states that Mawalla has made a mistake here and that Hambageu did not live at Belwa, but went in the direction of Belwa past Kisangiro village until he was found by the deputation from Samunge who brought him back as far as Kisangiro village. At Kisangiro village Hambageu pleaded a bad leg and remained there till his death. To this day it is at Kisangiro village that the God Hambageu resides and to his priests there the harvest festival offerings of goats and millet are brought from the other villages—this takes place in August-September usually. The priests keep a flock of these offertory goats which are known as 'Hambageu's goats'.—Ed.

Photograph taken at "Harvest Festival"

On receipt of the badly needed information, the Wasamunge sent a deputation to persuade Hambageu to return to Samunge to discuss whatever it was that had made him shift. On the arrival of this deputation. Hambageu had a bad leg that prevented him from walking, but he expressed his willingness to return to Samunge. He therefore informed the deputation that he would return on his recovery, which promise was accepted. But one of the Wasamunge said to Hambageu, "let all go back but I myself will remain with you until you are fit to walk". Hambageu stared at him very sharply and said, "I feel you are very wise and from today you will be known as Sinai". This man remained with him at Belwa.

It is said that one day at Belwa Hambageu, while conversing with his subjects, told them that—in years to come—they would observe curious changes; that there would come red people who would dominate the whole country and that these people would also pass overhead flying like birds, in their wooden canoes.

On recovering, Hambageu changed his opinion and decided not to return to Samunge, in spite of Sinai's insistence that he should go back for settlement of the affair. The Wasamunge sent another deputation but all was in vain. Hambageu therefore made Belwa (Kisangiro) his second permanent home.

One evening Hambageu covened a meeting of all the people and stated that he had one thing that he was going to tell them and that they ought to listen with all of their common sense and that they should abide by his wishes. He said, "I feel I shall die in the very near future, and when I die my corpse is not to be buried but placed on top of a huge stone (which he pointed out) and left there to dry; the Wasamunge should be informed of my death and they will take my corpse for burial at Samunge and not at Belwa". After this meeting Hambageu accepted no further interviews but confined himself in his small hut and passed away very peacefully one evening. When the news of his death came to the ears of people, it was mourned all over the country.

People went to his hut and removed the corpse. But the corpse was buried (contrary to Hambageu's will) before the Wasamunge arrived to take it to their country for burial in accordance with their God's request. On arrival of the Wasamunge, a terrible quarrel arose between them and the Wakisangiro (Belwa) which culminated in exhuming the corps. To their great shock, the grave was found completely empty—nothing in it except Hambageu's slippers which he was buried with.

Exhaustive enquiries were made which disclosed beyond suspicion that Hambageu's corpse was not removed by anybody but that he must have risen from the dead, as during his long life he displayed countless wonders which none on earth had ever done.

The Wasamunge, therefore, returned home lamenting and mourning for the great agony which befell them, and from that day to this the whole country of Sonjo believes that Hambageu was God and is still God and will remain God.

On receiving the above account I wrote to the District Officer in charge of the Loliondo Division to ask him to make enquiries amongst the Sonjo with a view to finding out whether the story was comparatively recent in origin and perhaps due, directly or indirectly, to missionary influence, or genuinely traditional in the sense that it is pre-European and handed down from generation to generation. Mr. Mainwaring has replied as follows, after consulting the Sonjo elders:—

> "The God Hambageu was known to, and worshipped by, the Wasonjo long before any Europeans entered his country, and long before any news of the existence of white men reached the Wasonjo country. Hambageu did bring news of the existence of white people to the Wasonjo; he said that when they arrived they would help the Wasonjo and be the rulers of the land and all their orders must be obeyed. At present Hambageu is on a long journey and will return to the Sonjo country at the end of the world, this event will take place one morning when two suns will rise, one in the east and one in the west; at midday both suns will meet, and there will be much fire smoke and noise, all the birds will leave the forest and fly away and there will be general confusion all round. During this affair Hambageu will arrive and search for men with a special mark on their left breast (all Wasonjo appear to have this mark) these men will be assisted and helped by Hambageu. The Wasonje are not quite clear what happens to those who have not the mark. This story and the worship of Hambageu has been handed down from father to son for many generations, the origin of the story appears to be lost in the past. No living Msonjo has seen Hambageu, but he is regarded as the God of the Wasonjo and is worshipped as such."

ARROW-ROOT

By P. J. Greenway, O.B.E., F.L.S., Botanist in Charge,
East African Herbarium,
(E.A.A. & F.R.O.)

In the prosperous days of Queen Victoria and Edward VII the hot houses and conservatories of the well-to-do were gorgeous with the very decorative and often bizarre leaves of foliage plants besides orchids, ferns and other tropical flowering plants. Such decorative foliage plants and the more typical plants of hot houses are now, except for the rare few, things of the past and today are only met with in tropical rain forests or in the more fortunate of the botanical gardens who have the facilities and the labour to grow and display them.

Many of these decorative foliage plants belonged to the Arrow-root family Marantaceae, the East African members of which have just been described and published in this family of the Flora of Tropical East Africa.

The Marantaceae is closely related to the banana, ginger and canna families, it is a family of perennial herbs confined mostly to swamps in rain forest, and except for their foliage they are of little interest to horticulturists as their flowers are not very showy, but, due to their complicated structure, are of great interest to botanists.

Five genera are described in the Flora of Tropical East Africa. They are **Trachyphrynium** with one species, **T. braunianum** (K. Schum.) Baker found in Uganda only, but extending into the Anglo-Egyptian Sudan, Belgian Congo and Sierra Leone; **Megaphrynium** one species, **M. macrostachyum** (Benth.) Milne-Redhead in Uganda and with a similar distribution; **Sarcophrynium,** one species,, **M. schweinfurthianum** (O. Ktze) Milne-Redhead again Uganda but only extending to the Belgian Congo and the Anglo-Egyptian Sudan; **Marantochloa** with three species, all three forming a West African flora element with a distribution by way of Uganda into the Lake Province of Tanganyika with the exception of one species **M. leucantha** (K. Schum.) Milne-Redhead which has a discontinuous distribution from Uganda by that of the Lake into the Tanga and Eastern Provinces of Tanganyika; the fifth **Ataenidia** with one species, **A. conferta** (Benth.) Milne-Redhead, again only found in Uganda with a distribution westwards as far as the Gold Coast in West Africa.

Strangely enough the family is not represented in Kenya or Zanzibar but there is no reason why some of them should not turn up in the Kakamega District of Kenya as the forest there has quite a number of members of the West Africa flora. In fact the Marantaceae as described in the Flora of Tropical East Africa can be considered as representatives of the West African flora with a very limited distribution into the Western portions of East Africa.

In preparing the Marantaceae for the press, Mr. Milne-Redhead of Kew, had a great deal of difficult taxonomic research to do on this very complicated family. Of the seven species described six had to be trans-

ferred from other genera to which they did not rightly belong, in fact some species had been placed in as many as three different genera by earlier botanists.

This part of the Flora of Tropical East Africa contains nine pages only. There is a full description of the family, a key to the genera, each one of which is fully described, and as the genus **Marantochloa** is the only one with three species, a key to these species is the only key necessary for specific distinctions. Unfortunately there are only two figures, one of the fruits and seeds of members of all the genera by the artist M.R., the other a full page illustration of **Marantochloa purpurea** (Ridl.) Mine-Redhead by another artist, D.R.T. Why, oh why, with so critical a family could not the whole five genera have been fully illustrated: thus inducing the lay men such as foresters and possible plant ecologists and others to take more than a passing interest in this very difficult family.

The booklet as I have said before consists of nine pages with two line drawings and an index. It was published by the Crown Agents in August 1952 and sells in London for the sum of Sh. 1/3 and is obtainable, like the other two families, from the Government Printers in East Africa and Zanzibar, also the Uganda Bookshop, Kampala, Uganda. It is hoped the author, Mr. E. Milne-Redhead, who is to be congratulated on the completion of this critical revision of a difficult family, will not be long in revising and publishing another family for the Flora of Tropical East Africa, each part of which is eagerly awaited by all those interested including those who have to make a study of East Africa's indigenous plants.

NOTES ON IRANGI HOUSES

By R. F. Gray

The Irangi are a Bantu-speaking tribe occupying the northern half of Kondoa District in the Central Province of Tanganyika. They are surrounded by non-Bantu tribes. In January of 1951 the writer, who was then stationed at Mbugwe, making an ethnographic survey of that tribe, spent a fortnight visiting the Irangi.* The Mbugwe and Irangi tribes are closely related in language and culture, and the purpose of the visit was to make comparative observations to determine the similarities and contrasts between the two tribes. The following sketch is based on those observations supplemented by later conversations with Irangi informants now living in Mbugwe.

The first two days of this visit were spent at Kolo, the political headquarters for the tribe. The rest of this time was spent at Lake Haubi, fifteen miles east of the Great North Road. These notes refer specifically to the customs of the Haubi area, which are probably more representative of the old tribal ways than the western Irangi, being less infiltrated by other tribes and less influenced by Islamic and European ideas.

The notes are not meant to give a true picture of present-day conditions. The purpose of the investigation demanded that an attempt be made, as far as possible, to record the "ethnographic present"—the traditional customs as they existed before being markedly changed by recent, alien influence. The fragmentary nature of the information that follows is evident to the writer, and is due to the limitations of time and purpose. It is presented here as a contribution to the ethnology of East African houses and an introduction to a region that is very poorly known anthropologically.

The House. The Irangi live in flat-roofed, rectangular houses of the "tembe" type which is characteristic of a number of other tribes in northern and central Tanganyika. A close examination of these houses, however, reveals differences in many details of structure and materials among the various tribal types. The Irangi build on level sites and avoid hillsides. The houses are not oriented to any particular direction, except that very few face east, because of the prevailing cold wind from that direction.

The basic construction of all the houses follows a standard design, and they vary significantly only in size and interior arrangement.

The support for the roof is a series of stout, forked posts *(ngururyo)*, planted firmly in the ground at regular intervals of about four feet, arranged in straight rows running both ways. These posts divide the house into a number of smaller squares like a checker-board. The horns of the forks are lined up from front to back, and across the forks, from side to side of the house, are laid heavy beams *(vichampe*, sing. *kichampe)*. Across these beams in a front-to-back direction are laid smaller timbers *(njalo)* at six-inch intervals; and over and crossing the *njalo* is a layer of small sticks and twigs *(saha)* laid side-by-side. The construction up to this point is illustrated in Fig. 1 and Plate I.

This work was supported with a research grant by the Fulbright Fund for which grateful acknowledgement is here made.

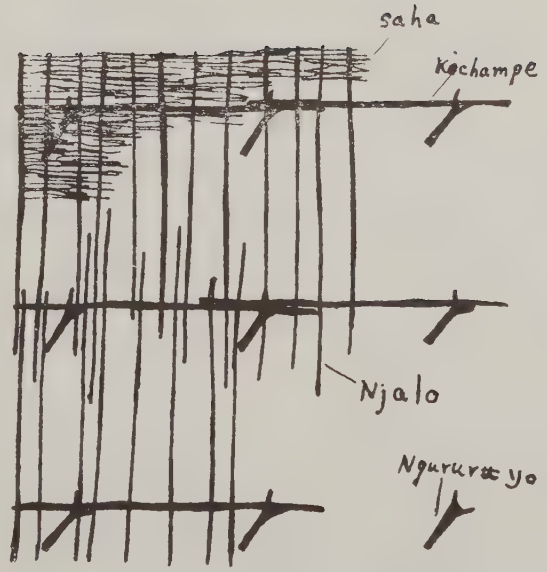


Fig. 1. Construction of a three-**vichampe** house.

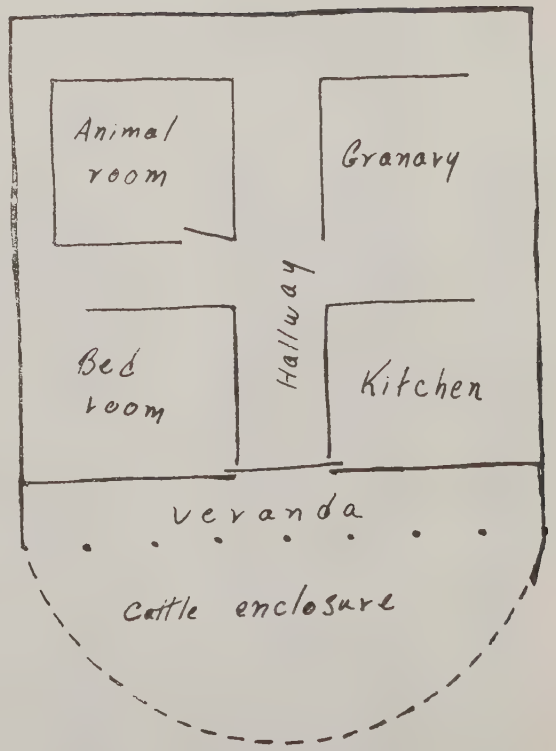


Fig. 2, Ground plan of a typical Irangi house.

The roof of the house consists of a layer of grass, and over that the top layer of earth which is intended to keep out the rain. The walls, which do not support the roof, are made of straight sticks *(visimiro)* closely placed between the outside rows of posts, and sealed with mud plaster on the inside. The roof is slightly curved, being higher in the centre than at the edges, and extends beyond the walls about 18 inches. The space under the eaves is used for storing firewood, of which a surplus is gathered in the dry season to be used during the busy time of cultivation. The door is in the centre of the front wall, which is stronger than the other walls, being reinforced with extra posts called "helpers" *(mambera)* to prevent the cattle in the compound from breaking through the wall. An occasional house in the Haube area is seen with walls of mud bricks. This is stated to be a recent innovation; bricks are more durable than sticks-and-mud and do not require frequent replastering.

An important feature of these houses is their sectional construction which makes it easy to enlarge or diminish the size of a house, or disassemble all or part of a house and use the materials in a different structure. The house is laid out as a square, but the front wall is built against the second row of *ngururyo,* the front row being left open; the space under the overhanging roof serves as a veranda and is used by the cattle at night as a rain shelter. In front of almost every house is a boma or cattle enclosure extending in a semicircle from corner to corner. This is a disorderly-looking but staunch structure, anchored on disused house posts which are planted in the ground, and on which are piled all sorts of old logs and branches and even faggots of firewood. The chief purpose of the boma is to keep out hyenas.

Irangi houses are rated in size by counting the rows of beams or *vichampe* including the front and back row. A youth's first house is usually three or four *vichampe,* and from there the houses range in size up to twelve *vichampe,* in the case of a few rich men. It should be noted that the amount of material used in building a house varies with the square of the *vichampe*-rating; thus a three-*vichampe* house requires nine posts or *ngururyo,* while a ten-*vichampe* house requires one hundred.

The special distribution and grouping of Irangi houses are mostly determined by natural features of the land. The largest social group with which we are concerned in this discussion of housing is the *turi,* which may be defined as a village or ward depending on whether or not there is a perceptible boundary between one *turi* and its neighbours. In the plain of the Lake Haubi basin the homesteads are evenly distributed, and a stranger would not know, in some places, where one *turi* left off and another began, without being told; but in the hillier country some of the valleys are occupied by a single isolated *turi,* which is a proper village. A house-builder calls on the people of his *turi* for help, as will be described further below.

A homestead unit, occupied by a group of close relatives, may be a single house or a cluster of up to seven or eight. The largest unit that came to the writer's attention, Nauri's homestead, included seven houses. (See Pl. II and Fig. 2). As a general rule a homestead is occupied by a man and his wife (or wives) and small children and one or two married

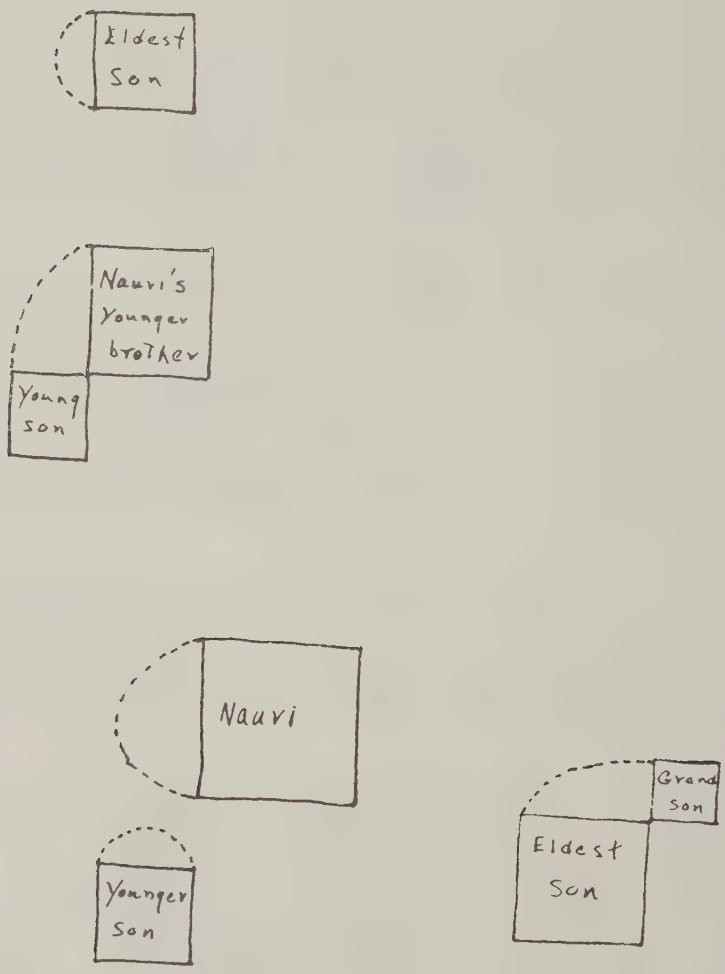


Fig. 3. Sketch of the houses of Nauri's homestead. (See photograph, Plate II.)

sons. Marriage is patrilocal—a woman goes to live at her husband's house —and houses are always the property of men. When a son reaches the age of ten to fifteen his father builds him a small house of three or four *vichampe*. All boys leave home for sleeping at night at about ten years; if the father can afford it the boy gets his house immediately and invites some of his friends to stay with him; if the father is a poor man, the boy goes to stay at a friend's house and gets his own small house later. This first son's house is built near the father's house, and quite often the two houses are actually attached by their front corners and face on a common, quadrant-shaped, cattle enclosure. A second son, when his time comes, takes over the house of the eldest, who then moves into a new house which may be attached to the other front corner of the father's house or set off at a distance. A house is normally moved every five or six years. It is believed that the distance between the houses of a father and son tells how cordial are the relations between them. The writer saw only one instance of four houses enclosing a common, rectangular court. That was the homestead of Idi Kidala, the *mwanangwa* of the district.

Building a House. Two principal phases may be distinguished in building an Irangi house: first (and most difficult and expensive), assembling the materials, and, second, the actual building. We shall take a small house of four *vichampe*, being built for a first son, as our model in the following description of house building.

The heavy timbers for the house are obtained on and below the north escarpment of the Haubi Plateau. Formerly the forests supplying these timbers were nearer at hand and most house-builders cut their own timbers. Nowadays, there is no forest left above the escarpment; the new Irangi settlers at the bottom of the escarpment cut and sell most of the wood for house building; the Haubi people obtain their materials from the settlements at Pake and Kinyasi. Occasionally a house-owner, leaving Haubi for the new settlements in the north, will disassemble his house and offer the materials for sale. A rich man, intending to build his son a house, will buy the materials and have everything assembled in a month or so. A poor man, who cuts at least part of the timber himself with the son's help, may take a year or longer to get his materials together. It is a full day's work for a man to cut two *ngururyo*; and just to walk from Haubi to Pake, purchase two *ngururyo*, and carry them home is a task of six hours. *Ngururyo* are chosen to resist decay and white ants, and a good quality *ngururyo* is expected to last twenty years. The buried part of the post is the first to rot, and when this happens it is removed and used to strengthen the cattle enclosure. Four kinds of trees supply satisfactory *ngururyo*. These were not identified botanically; the native names for these trees are *mlungu*, *mduwao*, *mkalankanga*, and *mlembeet*. Posts made from other kinds of trees are said to rot in about five years. The prevailing price of *ngururyo* at the time these notes were taken was fifty cents a piece.

Vichampe, the roof beams, are also carefully selected and are cut from three species of trees having the native names, *moorichi*, *momburu*, and *mwanya*. Long, straight branches are sought rather than the trunks of the trees. *Vichampe* run six to ten feet long and are three or four inches in diameter. The natives say that in the old days much heavier timbers

were available and used. The price of a *kichampe* is twenty-five cents. *Njalo* are thinner and longer than *vichampe*, being cut in lengths of ten to fifteen feet. These timbers are laid across the *vichampe* and serve as rafters. Four trees are recognized as suitable for *njalo-tarifu, kiviroviro, msongolomambo,* and *singa. Njalo* are sold at the rate of twenty-five for one shilling.

Visimiro are the upright sticks that form the walls. They are an inch or two thick and are cut from *dabiri* or *mduwao* trees. The price is twenty-five for one shilling. Any kind of tree or shrub may be used for the layer of sticks and twigs called *saha,* covering the *njalo.* They are laid side by side, and a large number are required to cover the roof. These sticks are considered expendable and are used as firewood when a house is re-roofed.

A layer of grass is spread over the *saha,* having the purpose of keeping the earth covering from trickling through the ceiling. It is also believed that the cushioning effect of the grass prevents the earth from cracking. The coarse *manyasi* grass of the plains is favoured for roofing, but it is not very abundant and many builders use finger-millet stalks as a substitute. At a pinch any kind of weed or grass can be used.

The earth covering of the roof is called *ibuho.* Any kind of earth will serve, but ant-hill earth is preferred and used when available. The earth is mixed with water and plastered four inches thick over the grass layer. A layer of dry, sandy soil is spread over the wet plaster to prevent it from cracking as it dries.

The *visimiro* of the walls are held in place by bundles of reeds or twigs called *masanga.* These bundles are fixed on the inside and outside, half way up the wall and lashed together with strips of bark. The door and inside partitions are made of long, thin twigs from a local shrub called *mihengeka.* These wickers are woven horizontally over upright sticks, and the resulting wickerwork is called *nkuji.* Sometimes heavier partitions are made of *visimiro.*

When the necessary timber has been collected and stored nearby, the actual building starts with laying out the ground plan and marking the post sites. The implements used for this are a rope, for making straight rows of *ngururyo,* and a stick for measuring the intervals between posts. A base line is established by sighting on the father's house; thus all the houses of a homestead are oriented to the same grid, although some are facing at night angles to others. The distance between posts is determined by a compromise between the conflicting desires for strength and roominess. This interval is close to four feet in most houses. No instrument is used for squaring the corners of the house; that is done by sighting across the base line. The post sites are marked with a hoe.

The first step in construction is planting the *ngururyo.* Enough neighbours turn out to help the owner accomplish this in one afternoon. If it is a large house, the whole *turi* will assemble for this work. The post-holes are dug with a digging stick *(mulo),* shaped like a pointed paddle with fire-hardened edge. The post is planted an arm's length in the ground.

Plate I. Supporting structure of a house.

The centre *ngururyo* are slightly higher than those at the edge to give the roof a gentle curve.

Vichampe are laid by the owner and son alone or with the informal help of neighbours or relatives. These beams are tied with strips of bark or rope to the fork of each *ngururyo,* and together where they overlap. The *njalo* are laid across the *vichampe* about six inches apart. They are tied all round the wall edges and at a few points inside. This is considered a small task, as is the laying of the *saha* or layer of sticks above the *njalo.* These sticks are laid side-by-side and are not tied. The *visimiro* of the walls are fixed in place at this time. These sticks are planted several inches in the earth and bound with *masanga* to keep them in line with the outside rows of *ngururyo.*

The laying of the roof of grass and earth is a communal task for which most of the men of the *turi* assemble early in the afternoon to complete it by sundown. Each man brings an armful of finger-millet stalks from his own field, and the needed amount is soon collected. If grass is used each helper brings in a bundle from the hills and that takes longer. Some of the men scramble up on the *saha* of the roof and lay the centre first, working outwards to the eaves, with a four-inch layer of grass. Earth from an anthill is mixed with water in a pit in the ground. If no ant hill is nearby, ground earth is excavated and used. This mud plaster is applied in the centre of the roof first and then the rest of the roof is covered. Several men with hoes work this mud smooth and even as it is poured on. Mud is carried from the mixing pit to the roof in the wooden trays *(mkafi)* used for clearing manure from the house and boma. The layer of mud is a uniform four or five inches thick and follows the same gentle curve as the supporting framework. In the evening, when the work is done, the house owner serves a large meal to all the helpers. Eight or ten chickens and a large pot of porridge are prepared. In the old days beer was served as well as food to all helpers at house-building. Nowadays, the roofing-day feast is recognized as the only necessary payment to helpers. Most builders, however, prepare a little beer for helpers at the smaller tasks.

The next day, when the mud plaster has set but is still damp, a layer of dry sandy soil is spread over the mud for a depth of about two inches. The insides of the walls are plastered with mud and the house is now complete and may be inhabited forthwith. The building of the interior partitions and the cattle enclosure may be postponed and done at leisure.

Enlarging a house is done in much the same way as building a new house. A common change is from four to six *vichampe,* and the latter size requires more than double the amount of materials of the smaller house. The old roof is removed and discarded down to the *njalo;* when the additional timbers are in place the whole structure is given a new roof, the neighbours helping as in a new house. In most instances the enlarging of a house coincides with moving to a new site. Houses are moved every five to eight years, usually to a different site on the same plat of ground but sometimes to a distant plot belonging to the house-owner. Moving is done at a time when the house needs re-roofing, repairing, or enlarging. The extraordinary fertility of the recent house site is an important reason for

Plate II Nauri's homestead. See sketch in Fig. 2 for identification of houses.

Plate III. Front of Irangi house showing construction of stockade.

moving. During the moving the family lives in a temporary shelter *(itibu)* made of house timbers and millet stalks. The house is re-erected with the help of neighbours in the same way that a new house is built.

Rain and white ants are the chief agents of damage to houses. Rain erodes the roof and destroys the mud plaster of the walls. The roof and walls are patched every dry season. Occasionally, a whole house collapses from the weight of rain on the roof. White ants may attack and destroy the *visimiro* and roof timbers, but rarely the hard wood of the *ngururyo*. The latter rot in the ground from time to time and must be replaced, the discarded post being then used to strengthen the cattle enclosure.

Recent trends in the Haubi region are towards building higher houses and using mud bricks for the walls. As more houses are built with brick walls it is likely that they will be less frequently moved because of the greater time and labour required for making bricks.

Interior Furnishings. The interior of an Irangi house is divided into rooms by light wickerwork partitions that rise only part way to the ceiling. The layout of the rooms varies from house to house, but certain features are constant. The house of an unmarried youth is divided into three compartments—a central hallway running from the front to the back of the house, a sleeping room on one side, and a storage room on the other. A family dwelling usually has a central hallway and four basic rooms—kitchen, bedroom, animal room, and grain-storage room. A corridor is left unencumbered with partitions around the back and side walls and water and gourds are stored along the back wall. Fig. 3 illustrates an interior scheme typical of the Haubi houses observed by the writer.

The hallway is the most used part of the house. It is well lighted from the front door, and here the daily flour is ground and other household tasks done. The common tools for agriculture and household work are stored here, stuck into the ceiling or wall. The hallway also serves as a "drawing-room" and visitors are entertained there. Every house has three to six low wooden stools which are promptly brought into the hallway when visitors arrive.

The kichen contains the fireplace *(mafia)*, consisting of three rounded lumps of clay for supporting a cooking pot over burning embers, two or three clay pots of different sizes for cooking, a gourd churn, and perhaps some butter and dried vegetables in groud basins. The staple Irangi food is stiff porridge *(wari)* made from the flour of millet, sorghum, or finger millet (mentioned in the order of native preference). Two hot meals a day are prepared, the flour being freshly ground for each meal. Meals are eaten in the kitchen, children eating first, then parents. A relish of spinach or clotted milk is eaten with *wari;* butter is used in the relish when available. Occasionally, meat is served as relish. Breakfast consists of cold leftovers from the evening meal. A wife with small children has her bed in the kitchen and sleeps there with the children. Beer is brewed in large clay pots, but not every house possesses one of these. Beer is served on ceremonial occasions, such as marriages and initiations, and to working parties as payment for help in the fields.

Plate IV. Rear view of adjoining houses of father and son. Note storage of firewood under eaves.

One of the front rooms is the owner's bedroom. This room is also used for storing gourds of water. The house-owner has his bed and sleeps there and keeps his personal belongings there. It is the most private room in the house and would not be entered by a guest uninvited. A man and his wife sleep in the bedroom until a baby is born; thereafter, the wife sleeps in the kitchen with the children. Honoured guests are put up in the bedroom; the owner, on such occassions, sleeping in the kitchen or at the house of a relative.

Cattle spend the night outside in the stockade, but sheep, goats, and calves are brought into the house at night, and one room is allotted for this purpose. The ownership of cattle is a secretive matter, and people cannot say exactly how many cattle their neighbours own. A rich man keeps only a few animals at home, the rest being let out to be tended by men of his own, or even distant, *turi*; while a poor man who owns no cattle at all may have a dozen animals at home to take care of. The reward for keeping other people's cattle is the milk and manure of these cattle. If a beast dies, the owner is given four legs, the skin, and the head, the rest of the meat going to the keeper. Milking is done in the boma morning and evening, mostly by men and boys (although there is no taboo against women milking or handling cattle). The new calves are let out of the house one by one and allowed to start suckling; the calf is removed while the cow is milked, and then it is allowed to return and finish the job.

Every house has one room reserved as a granary. Grain is stored in cylindrical bins *(viome)* made of smooth bark. *Viome* are made by specialists in preparing and sewing the bark. The bottom is a spiral mat of twigs bound together and sewed to one opening of the bark cylinder. The bottom and seams are plastered when they are filled. If rats are numerous, a full *keome* is sealed on top with plaster. Not many houses have cats, but a neighbour's cat is always welcomed with a little milk in the hope that it will chase rats away. From two to six *viome* may be found in an Irangi house depending on the owner's skill and industry as a cultivator. Grain is carried from the fields at harvest time in cowhide bags called *mfuko*.

The Irangi do not use clay jars but only gourds for carrying and storing water. A supply of prepared gourds is stored in the corridor at the rear of the house. Basin-shaped vessels of various sizes are also made from gourds; some are decorated and others left plain.

In concluding these notes, a few observations on some of the principal events in Irangi life, as they relate to housing, will help in making the functions of the house in the lives of these people understandable.

Guests. The Irangi enjoy making house visits to relatives who live some distance away. The farther the journey the longer the visit. Sisters and brothers of both husband and wife make these visits most frequently; a cousin or second cousin of either one of the couple who stands in intimate and friendly relations to him may be welcomed in the same way. These visits are informal and have no ceremonial significance. The guest pitches in and helps with the agriculture and household tasks of the moment and in that way pays for the hospitality shown him. Ten days are considered long enough for a visit.

A different kind of a visit is that of a man's married sister who has left her husband because of domestic difficulties or has divorced him. A woman in that situation may go to the house of her parents or a brother and stay indefinitely. Membership in Irangi clans is matrilineal, and her brother, who is her closest male relative among her clanmates, gives her firm support in any legal dispute traditionally regarded as an inter-clan affair. These disputes have to do with payment and (in case of divorce) refund of the bride wealth, personal injury or insult to a woman, the property rights of her children, and the like.

The parents of a young couple also visit them, though less frequently than brothers and sisters. A man's parents are treated with deference and respect by his wife; a wife's father is treated with exaggerated respect by a man, while the wife's mother is treated with respectful reserve and avoided as far as possible. If a wife's mother stays overnight, the husband must sleep out.

Children are always welcomed by both paternal and maternal grandparents and frequently make long visits to a grandparent's house, which they greatly enjoy. There is supposed to be a particularly warm relationship between a youngest child and his paternal grandparents. A man is often visited by his sister's children with whom he is in confidential relationship.

THE STRUGGLE OF MOMBASA FOR ITS FREEDOM

By R. Reusch, D.D.

In 1528 the Portuguese Viceroy, Nuno d'Acunha, suppressed a rebellion in Mozambique and in 1529 attacked and destroyed Mombasa. But the rich and powerful city was rebuilt quickly with the help of Kilwa emigrants and began to flourish again, thanks to its trade. It continued to nourish the spirit of resistance and became the abode of all dissatisfied elements. The Pemba rebels were received there with open arms. This angered the Portuguese. They decided to subdue it once for all and to make it the seat of a provincial Governor because of its central location, its excellent harbour and trade.

All Portuguese reports of the 16th century emphasize that "Mombasa had large and many-storied houses, great amounts of gold, silver, ivory, amber, Persian and Indian clothes, enormous masses of African grain of every kind, rice, honey, butter, poultry as well as numerous herds of large cattle and fat sheep".[1] About its trade our sources relate that "it traded with Sofala, the whole East African coast, the countries of the Red Sea and the Persian Gulf as well as with the far-away India".[2]

Conscious of their riches and power, the inhabitants were most unwilling to bow under the Portuguese over-lordship. Their Sultan had at his disposal not only Arabian and Swahili troops, raised by the population, but also numerous mercenaries, especially excellent bow-men recruited among the aboriginal African inland tribes.[3] He had even several war-elephants. Relying on its military strength, the population constantly supported the turbulent and rebellious Pemba people against the Portuguese and received the fugitives from there with open arms.

To stop this the Portuguese unexpectedly occupied the city in 1512 and built there a strong fort, in which they put a numerous garrison. But the inhabitants, together with the troops of their Sultan, attacked later the sleeping garrison during a dark night and killed the Portuguese soldiers to the last man.

Therefore the newly appointed Governor-General of India, Nuno d'Acunha, decided to give them a lesson which they would not forget so easily. While on his way to India he visited Zanzibar. The inhabitants of the island complained bitterly about the harm done to them and their trade by the war-like and haughty Mombasa people. But Nuno d'Acunha knew the strength of Mombasa. He, therefore, mobilized the troops of Otondo, Malindi and Zanzibar, adding them to his own Portuguese forces. Otondo was for years a loyal vassal of Portugal, and Malindi was the reverse of the rebellious Mombasa, the two being inveterate enemies.

Duarte Barbosa [4], a Portuguese traveller of the 16th century, writes about Malindi: "The Sultan and the population of Malindi were always and are until to-day good and faithful friends of the King of Portugal, and the Portuguese have always found there the greatest sympathies, warm

Footnotes :

1 J. Strandes, "Die Portugiesenzeit in Deutsch-und Englisch-Ostafrika", Berlin, 1899, pp. 25-26, 68 and 72.
2 J. Strandes, p. 70.
3 J. Strandes, pp. 70 and 72.
4 Hollingsworth, "A short History of the East Coast of Africa", London, 1929, p. 70.

friendship and support". . . The same is reported about Zanzibar. This principality became quickly reconciled to its fate as a Portuguese colony, and the population became friends of their conquerors, ingratiating themselves with the Portuguese to such an extent that the latter freed them from the payment of the annual tribute.

The political and administrative organization of Zanzibar was in those days a curious, not to say a strange one. It was governed by an Arabian chief, called "Sultan". Beside him and subordinated to him was a native Swahili chief, called "Munyi mkuu" (Mwenye mkuu=the one who has greatness or the great chief). His office was apparently the continuation of the office of a hereditary ancient native Prince. The still surviving members of this family claim to be of Persian extraction. Local traditions relate about it the following tale:—When only one daughter of this house was left and all other members of it had died out, she married an Arab from Yemen, who was of Persian extraction. He became the second founder of this princely family.

He and his sons continued to rule the aboriginal inhabitants who called themselves "Muhadim" and lived in small villages scattered over the whole island. (Even to-day they recognize as their hereditary chief the oldest member of this family) Those Muhadim were the pre-Arabian inhabitants of the island. Each family paid two African dollars (about four shillings) annually, one to the Sultan and one to the "Munyi mkuu". During the harvest time they were forced to work an equal number of days on the fields of the Sultan and on those of the "Munyi mkuu". Until to-day they speak their own language, which has two dialects. It is not understood by the Arabs or even Waswahili. In the Swahili ballad "Sultani Darai" these shy, reserved and suspicious people are mentioned several times.[5]

Having concentrated his troops, Nuno d'Acunha moved against Mombasa, blockaded the city and besieged it for four months. But the Sultan and population defended it obstinately and with desperate courage. A local tradition describes this life and death struggle of the proud city in a highly dramatic way. I give below a translation of it, in which I try to preserve the original colour and tenor as much as possible.[6]

"The beleaguering army and fleet of Nuno d'Acunha repeatedly tried to storm the city. But the enormously strong walls withstood every onslaught. In vain the Governor-General tried to land troops. In hushed silence the bowmen of the city, hidden in the dense bush of the island, noislessly shot down with their poisoned arrows everyone who dared to put his foot on the soil of the island. But finally the Portuguese succeeded in landing a small force there, where the present lighthouse is, after having driven the defenders back with heavy cannon-fire. Their fleet could not enter the harbour for the Sultan had ordered it to be closed with two iron chains. But they used the high tide of a new moon night to land in a number of small boats, thus passing above the chains. Not many succeeded in landing, but they were experienced veterans, old and seasoned soldiers.

Seeing their comparatively small number, the next morning the elite of the city defenders, all young Arabs from the best families, decided to

5 Ed. Steere, "Swahili Tales", 1922, p. 493, note 27.
6 This song or ballad was made known to me by one of my traditionalists.

make a sally, a surprise attack, and to drive the enemy into the waves of the ocean before reinforcements could be brought up. The Sultan, fearing a trap, tried to restrain them, but could not hold them back. He let them have their way . . . Creakingly the city gates opened, and out gushed the squads of young fierce warriors . . . They formed their lines in spite of heavy cannon fire. A holy banner was brought forward, a green banner with sacred Koran words written on it with gold . . . Their force numbered a thousand or so.

The Portuguese are under the impression the enemy wants to come to the rescue of his driven-back bowmen, wants to conduct them safely under the protection of the mighty city-walls. . . . But their leader—an infidel dog, an unbeliever he was, but the wisdom of the war-science Allah bestowed upon him—a cunning trick he employed. He ordered his cannons to be silent, his rifles to cease to fire and his men, of whom he had only 600, to throw themselves flat on the ground. Deadly silent it became suddenly all around. . . .

The fierce youths are presuming that the enemy is headless, scared to death. Their leaders rush forward, brandishing their curved Shirazi swords. The holy banner flutters in the hot air of Africa inspiring, promising, victory. . . Encouraging, inciting, intoxicating and bewildering is the sound of the war trumpets, of the tambourines and cymbals! Wild and hot hammers the blood in the arteries . . .

"La Ilaha illa-'Llahu wa Muhammed rasulu 'Llahi" (there is no God but Allah and Muhammed is His messenger) spreads the prayer-call over the waves of the warriors, wild, burning hot, from one end of their lines to the other, like the roar of a scorching tropical storm! And forward plunge the fierce young heroes into the battle, into death . . . Speechless, bewildered, the bowmen ceased to shoot. Dumb they stand up between the bushes, watching the unusual sight! A deadly silence on the side of the enemy: no shot, no sound! Astonished are the bowmen gazing at the storming young warriors; breathlessly watch them the inhabitants from the height of the city-walls! Like a powerful river roars the Arabian force through the plain. It has already reached the vicinity of the cannons, the range of the rifle-fire . . . "La Ilaha illa-'Llahu" . . . They had no time to finish their inspiring prayer-call! A terrible thunder-stroke roars through the silence, a hundred furious thunders follow. . . And in their blood are rolling those who were the pride of their city, in blood and in the hot dust of equatorial Africa. The die is cast, the decision pronounced, the judgment given! Backwards roll the remnants of the heroic group. The bowmen flee. Loud wailings fill Mombasa . . . And on the same day the proud city surrenders without further resistance. . . ."

Nuno d'Acunha spared the city, did not order it ransacked, because he was deeply impressed by this heroic deed. But a tremendous sum of gold had to be paid as an annual tribute to the King of Portugal. The victors erected a fortified camp close to the city and remained there, resting from the hardships of the siege.

Suddenly an epidemic broke out among them. The Sultan heard of it and of the losses of the Portuguese. Believing that they were much weakened, he refused to pay the tribute and ordered his troops to attack the unsuspecting enemies treacherously. He had still sufficient troops for such

an action. The attack, launched in a rainy night, was against all expectations repulsed with heavy losses on both sides.

Nuno d'Acunha, bewildered and at the same time highly enraged, called up all his reserves, concentrated his troops, stormed the city and burned it down. A part of the inhabitants fled to the mainland, the remainder surrendered: the Sultan fled. The embittered Portuguese cut down all the coconut plantations, built a new stone fort and garrisoned it strongly. Nuno d'Acunha appointed Sidi Abubekr, a nephew of the Malindi ruler, as ruler of Mombasa. Sidi Abubekr had lost a hand in the assault on Mombasa. He was a descendant of the Kilwa Sultans. Then he garrisoned Malindi with 100 Portuguese, placed Governors at Kilwa, Sofala and Mozambique, and went to India, leaving the Lamu archipelago practically independent.

Gradually the inhabitants of Mombasa returned and re-built their city. But the inclination to revolt again disappeared for a long time. For almost 50 years the Portuguese enjoyed peace in their colonies from Barawa to Mozambique. But their rule was very oppressive and tyrannical. This embittered the Persians, Arabs, Waswahili and natives deeply, which shows itself in the surnames given by the population to the Portuguese Governors. One of them was called, for example, **Afriti** or **Sheitani** (the devil). The harsh, severe, tyrannical and bloody, always oppressive Portuguese rule instigated and nourished the bitterness of the population more and more. Finally it led to an open rebellion towards the end of the 16th century.

It broke out everywhere, but Mombasa took a leading part in it. Only Malindi remained loyal. It required the last ounce of the strength of the Portuguese to subdue it. Mainly two factors brought the smouldering fire to an open outbreak: the sudden appearance of the Turkish pirate Ali Bey and the sudden arrival of the cannibalistic Wazimba. The smouldering fire of rebellion took advantage of these two incidents, which produced havoc in many parts of the coast.

In 1535 the Kingdom of Axum (Abyssinia) was overrun by the Moslems. in 1538 the island of Socotra was occupied by the Turks, in 1541 occurred a great massacre of the Portuguese in the Congo, in 1548 many of them were massacred in Madagascar and in 1555 Catholic monks introduced the "Auto-dè-fe" (burning heretics by fire) in East Africa. This created political tension similar to that of Uganda some 300 years later, which produced a civil war. Already in 1561 there appeared signs of profound hatred on the side of the natives: Don Gonzales de Silveira was murdered by the people of Monomotapa near Zimbabwe; a little earlier Don Francesco Barretto, the Governor of East Africa, had to threaten to bombard Pate, which induced the defiant population to pay a huge ransom to save their town; he also crushed a revolt of the negroes on the island of Zanzibar.

Ali Bey and the Wazimba.

In 1570 the Wazimba or Muzimbe, a large cannibalistic tribe coming from the Congo, appeared before Tete in Mozambique. After severe fighting they were dispersed and partly driven back by the Portuguese. A large horde of them came a few years later to Tanganyika and Kenya, de-

vastating everything on their way. The Portuguese hold on East Africa was already considerably weakened due to the annexation of Portugal by Spain, which lasted from 1580 to 1640. Therefore the appearance of these cannibals as well as that of the Turkish corsair Ali Bey in 1586 shook their domination to its very foundations. Ali Bey arrived from Jiddah (the harbour of Mecca) in the Red Sea. He was one of the outstanding lieutenants of the notorious Turkish Admiral, Beylerby (Begler-beg) Hasan Barbarossa (Hassan the Redbeard).

Beylerbey (Commander-in-Chief) Hasan Barbarossa was the son of the greatest Turkish Admiral, the famous Khair-ed-Din Barbarossa, whose actual name was Khizr ibn Yaqub, but his nicknames were Baba-Arudj (Father Forward) and Barbarossa (Redbeard). Hasan was appointed after the death of his father as Beylerbey of the entire Turkish fleet in 1544. As such he became a menace to the European states and their commerce. The brave, daring Ali Bey, a man with piratical inclinations, was his right-hand man.

Since the Turkish Sultans, Murad III (1574-95) and Muhammed III (1595-1603), approved of Hasan Barbarossa's policy, his lieutenant Ali Bey went to the Red Sea. There he declared to the Arabs that he was a messenger of the Sultan of Turkey, who was recognized in 1517 as the Khalif of Islam. It must be remembered that in 1517 Selim I Yawuz (the Grim) had occupied Mecca and Medina with his Turkish troops and enforced his recognition as the spiritual and secular successor of the Prophet Muhammed, i.e. as Khalif. From that time on every Sultan of Turkey was the Khalif in the eyes of the whole Muhammedan world, one who must be obeyed unconditionally.

When Ali Bey arrived at Kismayu (Somaliland), Faza, Lamu and Mombasa (all of them modern Kenya), announcing that he was sent by the Sultan-Khalif to free them from the yoke of the Portuguese, he was received with open arms by all Muhammedans. After he had captured Roque de Brito Falcao, the ex-commandant of Malindi, the entire coast, with the exception of Malindi and Mozambique, accepted Turkish sovereignty. Supported by the population, he stormed one Portuguese fort after another. The garrisons were either cut down or enslaved. With rich war booty and some 50 Portuguese prisoners of war he returned to Jiddah, from where he sent Roque de Brito Falcao to Stambul.

The news of Ali Bey's appearance and successes spread like wild-fire everywhere along the coast. The Muhammedan population sympathized with him and was only awaiting his arrival to start a rebellion. The loyal ruler of Malindi sent at once a message to the Viceroy in India, warning him of the approaching rebellion.

In 1587 a large Portuguese fleet of 19 ships came to East Africa under Martin Alfonso de Melo Bombeiro. Troops were landed, all rebels severely punished, Mombasa burnt, the forts which had been destroyed by Ali Bey rebuilt and garrisoned anew. But scarcely had the fleet sailed away, when the Wazimba appeared, ravaging the whole coast, and Ali Bey returned in 1589. This time he landed at Mombasa, drove out the Portuguese garrison and built a strong fort. It occupied the place where one can see today the ruins of the Portuguese chapel "Nossa Senhora das Merces" and is remembered as "the Turkish fort."

The ruler of Malindi, seeing that Ali Bey and Mombasa were preparing an expedition against Malindi, sent again a message to the Viceroy who immediately dispatched twenty well-manned ships to East Africa to suppress the rebellion.

Before, however, this fleet had time to arrive, there appeared the Wazimba. In 1587 Kilwa was betrayed to them by a Moslem. Using during the night a ford across the shallow channel which divided the city from the mainland, they entered it through a gate opened by the traitor, killed 3,000 people, ate all their prisoners of war, carried off the young women and burned the greater part of the city. During 1588 they appeared before Mombasa, cutting it off from the mainland and trying to besiege it from the land side. In the meantime the Portuguese fleet arrived and blockaded the city from the sea side. The situation of Mombasa became critical.

Ali Bey and his men left their ships in the harbour and threw themselves into the newly-erected Turkish fort to protect Mombasa on that side. He had excellent fighters in his Turks and Syrians. They repulsed all attacks of the savage Wazimba. Now the latter sent negotiators to another gate to persuade the inhabitants to let them in, promising to help to defend it against their common enemy, the Portuguese.

Since a shortage of food began to make itself noticeable and the hatred against the Portuguese was stronger than the fear of the Wazimba, the city opened its gates to the cannibals against the explicit warning of Ali Bey. The Sultan intended to use the Wazimba for the defence of that side of the walls which was attacked by the Portuguese. But his calculations proved to be wrong. As soon as a sufficient number of them had entered the city, the cannibals threw themselves upon the inhabitants, killing and eating them—men, women and children.

Ali Bey, receiving news of this, broke out from his fortress with his 300-400 men, repulsed the attacking Wazimba and began to drive them out of the city. He succeeded in clearing a part of it close to his fort, but soon discovered that his brave fighters were not sufficient for this task against the 20,000 Wazimba. He might have succeeded if the city troops had not fled.

When night came and the city troops heard that the Wazimba were cannibals, panic seized them. The greater part fled, together with the Sultan, to the mainland. Only a desperate remnant joined Ali Bey in his fight against the cannibals. Suffering heavy losses in the narrow streets of the partly burning city against overwhelming numbers of fierce savages, he gradually pressed towards the shore. Convinced that the city was lost, he ordered his men to save themselves on the shore of the mainland, using the few boats or by swimming.

He himself selected a handful of his bravest men and defended the narrow street leading to this place until all his companions were killed. Then he threw himself in the water intending to swim across the channel. His heavy armour, however, slowed down his swimming. In the meantime some Portuguese boats appeared in the channel to reconnoitre under the protection of the darkness and to look for a suitable landing-place for the troops. Two boats reached him before he made the shore of the mainland.

Several of his Turks came swimming to his rescue, but after a short struggle all of them were taken prisoner and brought to the Admiral's ship. There Ali Bey was recognized, chained with silver chains and sent to Portugal, where he died a few years later.

Next morning the Wazimba, noticing that the Sultan, Ali Bey, the troops and the majority of the population were gone, and that the Portuguese were opening heavy cannon-fire, began to plunder and burn the houses. But when the Portuguese started to land troops, they left the burning city, withdrawing hurriedly to the north pursued by Portuguese shell fire.

Tradition relates that on their way they came upon the city of Gedi. Since it was strongly fortified, they approached it during the night, set fire to the gates and entered it. The panic-stricken population fled without offering much resistance. The Wazimba ate during the same night all prisoners-of-war whom they captured. The ruined gates of Gedi clearly show signs of destruction by fire. The Wazimba must have collected masses of dry wood, piled it up in front of two of the gates and set it on fire. One notices traces of fire even on parts of the wall adjoining these two gates. After the departure of the Wazimba the inhabitants returned and rebuilt Gedi. But the new Gedi was smaller than the old city as can be proved by the lesser area surrounded by the new city walls.

From Gedi the Wazimba moved against Malindi. The Portuguese had a premonition that the cannibals would attack this rich city. Therefore they rushed reinforcements there. The Sultan, warned by spies, made all necessary preparations to repulse this merciless enemy. He mobilized the population as well as several thousand Wasegeju bowmen, who recognized him as their chief and to whom he was related through his mother. They were a warlike tribe, famous as bowmen. They came to the coast twenty years earlier, and many of them entered the service of Malindi as mercenary bowmen.

The united forces of the Malindi troops, the Portuguese under Mattheo Mendes de Vasconcellos and the Wasegeju mercenaries met the Wazimba before the gates of the city. Shattered by the cannon- and rifle-fire of the Portuguese as well as by the arrows of the Wasegeju sharpshooters, the Wazimba gave way, when the Malindi troops charged with their long spears and curved swords. Their retreat turned into panicky flight when the mail-clad Portuguese began to take part in the man-to-man fighting. According to tradition the Malindi troops and especially the Wasegeju, intoxicated by their victory, followed and killed hundreds of the fleeing Wazimba.

The victors, remembering the fate of Mombasa at the hands of their ally, the Wazimba, closed the gates of Malindi and did not allow the Wasegeju to enter the city after the battle, except in small groups. The defeated Wazimba retreated in a southerly direction. But now all the indigenous tribes arose against these cannibals attacking, ambushing and killing them wherever they could get hold of them. Of the 20,000 Wazimba scarcely one hundred arrived back in their homeland.[7]

7 Fr. Johnson, "Zamani mpaka siku hizi", London, 1930, p. 140.

Tradition relates that the Portuguese helped to rebuild Gedi on a smaller scale, but transferred a part of its population to Mombasa, hoping that the former Gedi inhabitants would be loyal future adherents of Portugal and would as such prevent any uprising of this turbulent city. A Mombasa tradition reports that they transferred also a number of Malindi families to Mombasa for the same reason and "to increase the population of this important city."

As already mentioned, the Sultan of Mombasa had fled together with his troops when the Wazimba began to attack and eat the inhabitants. During his flight he was killed or died from another cause. Since there was no legitimate successor to the throne the Portuguese installed their faithful ally, the ruler of Malindi, as Sultan of Mombasa and paramount ruler of the coast. But he, a benevolent man, got into trouble less than a year later with the overbearing commander of the Portuguese garrison. Tradition relates that the haughty Portuguese nursed the intention of arresting the Sultan and putting him in chains. Someone told this to the Sultan. The faithful ally of the Portuguese felt deeply insulted. During the following night he fled into the plains of the mainland, intending to return to Malindi. But some Wanyika-hunters, not recognizing him in the darkness, killed him with an arrow (1590-91).

After the capture of Ali Bey 1589 the Portuguese revenged themselves upon the coastal rulers and population. Pate (Patta) had to pay an indemnity of 4,000 crusados and its ruler was deposed. The ruler of Siu was imprisoned; various local rulers were forced to assist at the executions of the natives; the ruler of Lamu, Bwana Bashiri, was executed. This only increased the bitterness everywhere.

In 1592-3 the Sultan of Malindi came to Mombasa in his capacity as paramount ruler of the coast, after the murder of his predecessor by the Wanyika-hunters, with the intention of installing a new ruler there. He found that a certain Shaho ibn Masham of the Shirazi house was proclaimed as Sultan. After desperate fighting between the Malindi troops and the Mombasans, supported by the Kilifi people, he deposed Shaho, replacing him by Ahmed ibn Hasan, a descendant of the Kilwa Sultans and relative of the Malindi house. This Prince was also distantly related to the old ruling house of Mombasa. Therefore the Portuguese agreed to his installation.

He was persuaded and bribed to become a Catholic. The Portuguese hoped that the new Catholic ruler would be a loyal vassal. But they were mistaken. Tradition tells us that the Muhammedan leaders and clergy persuaded the young Sultan to return to the religion of his fathers, to stir up a rebellion, to drive out the hated Portuguese and to restore the old glorious independence of Mombasa. The inexperienced Sultan was easily persuaded. He became secretly a Muhammedan. It is said that one of the reasons why he became again a Moslem was that he could have a harem. The other was that the Catholic religion was pictured to him as a kind of paganism because of the worship of Mary and the Saints.

Together with the other Muhammedan leaders he began to make plans for a rebellion. On a dark rainy night he ordered all the Portuguese in Mombasa to be killed. This was done very quietly. Then, around

midnight, he went with a number of his men, disguised as his servants, to the fort. Having been, as a Catholic, *persona grata* with the commandant, he knew every entrance. Through a small unguarded gate he and his men entered with the help of a forged key. They murdered the half-sleepy guards of the main gate, opened it for their accomplices and began to kill the garrison.

They almost succeeded in accomplishing their bloody task. But, unfortunately, one of the officers noticed that something was wrong, rushed to the commandant and gave the alarm signal. The commandant succeeded in gathering a sufficient number of his men and drove out the attackers. He closed the gates and sent messengers to the garrisons of Malindi and Zanzibar. With the help of the quickly arriving reinforcements he subdued the rebellion, but not without much bloodshed and severity.

The young Sultan, seeing that the rebellion had failed, fled to the Comorian islands to escape the revenge of the Portuguese, who rebuilt and enlarged the old fort of Mombasa. It exists until today and is called Fort Jesus. It became the residency of a provincial Governor. In 1596-7 the Viceroy, Don Francisco da Gama, arriving from India, resided there. He reinstated Amin, the previously exiled Diwan (ruler) of Pemba, gave permission to send pilgrim ships annually to Mecca and placed Antonio Godinho d'Andrade as commandant of the new fort.

Zanzibar, spared from the Wazimba invasion with all its bloody destruction, did not join the rebellion. But the Pemba population joined it. These people, called by the Portuguese "the eternally turbulent ones," massacred all Portuguese, including women and children, on their island during one single night in 1587. It seems that agents of Ali Bey induced them to do it. Their ruler, friendly disposed towards the Portuguese, scarcely escaped being assassinated by his own people. He saved himself by fleeing to Malindi. After his flight the Pemba people began vigorously to support the Mombasa uprising of 1592. Therefore the Portuguese landed at Pemba and executed all the leaders with the greatest cruelty. In 1598 a new rebellion broke out, was put down, and the Portuguese began to settle at Lamu and Faza.

In 1604 Ahmed ibn Hasan of Malindi became overlord of Pemba. In 1609 he was succeeded by his son Hasan. In 1604-5 a Princess of Faza accepted Christianity and was married to Joao de Monteiro Fonseca. In 1607 the ex-ruler of Pemba, Don Phillip, became a Christian and married Donna Anna, an orphan. In 1610 Hasan, the ruler of Malindi and overlord of Pemba, became also Sultan of Mombasa. But an uncle of the previous Sultan, who fled to the Comorian islands after his rebellion, by name of Muigni (Mwenye) Naja, intrigued and forced him to flee to Kilifi. After his return to Mombasa he was assassinated, and Muigni was made local ruler, together with an uncle of Hasan, Muigni Muhammed, by the Portuguese. This latter became known as Don Alfonso after his baptism in 1614.

Kilwa and Mafia did not openly support the rebellion, but sympathized with it and secretly sent money to Mombasa. Their Muhammedan population was never very loyal to the Portuguese, its loyalty being always of an uncertain nature. But since they had not openly joined the rebellion they

escaped retaliation. Tradition relates that both were on the point of joining the rebels, since there was no garrison in Kilwa to prevent this and the seat of the Government was transferred to Mozambique. Only the news of the failure of the insurrection at Mombasa prevented them from taking an active part in it.

Conditions in Mogadishu were different. This rich and strong state had never bowed to Portuguese supremacy, always refusing to recognize it. As a fanatical adherent of Ali Bey it supported every uprising. Money, supplies and many volunteers were sent to Mombasa, but turned back on receiving the news that the Sultan had fled. Well fortified, with a numerous population and as rich as Mombasa, it continued to be an abode of resistance. Its houses were many-storied and built of stone; the mosques were large and beautiful; its palaces resembled castles; the walls were high, strong and had many towers. Repeatedly the Portuguese shelled it, destroying many vessels in its harbour, but never succeeded in landing troops, because its harbour was not suitable for an easy landing, and the defence was too strong. Portuguese sources mention it as the largest, richest and strongest city of the East African coast. It had not only a large army of infantry but was the only East African state to have Arabian cavalry. It was "the only East African state which the Portuguese could never subdue, over which they never won a trace of influence and which was always hostile to them."

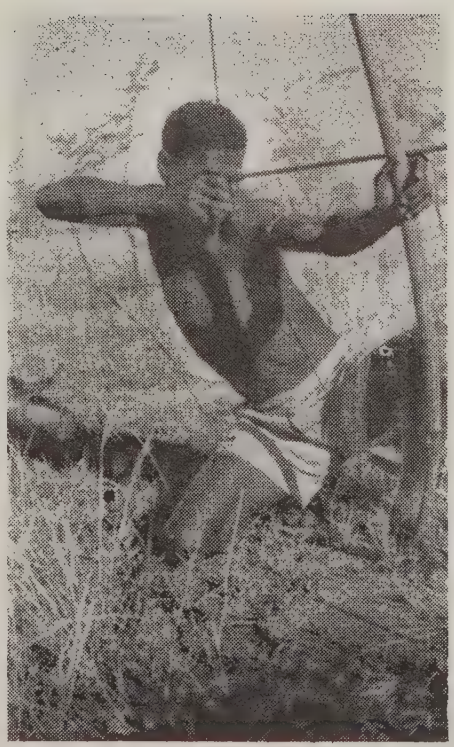


Plate I

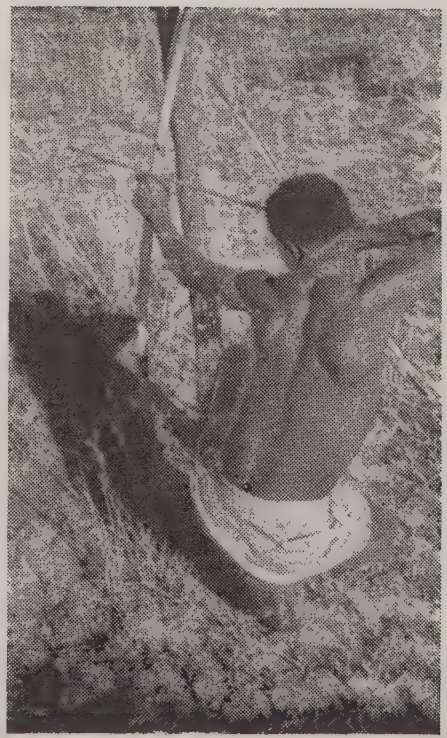


Plate II

ARCHERY AMONGST THE SUKUMA

By R. E. S. Tanner

It is interesting to find in early editions of the Encyclopaedia Britannica a description of the bows of the Pygmies as the smallest and that of the Basukuma as the biggest in current use, with a pull of 80 lbs. and a throw of 250 yds. The author has seen a young man of 16 years shoot 175 yds. with a light hunting bow without any apparent effort, and then say that he had better arrows which would go much further.

The Sukuma bow (*buta*) varies in length from 5ft. to 5ft. 7ins. and may either be straight or sharply curved at the ends. The wood of the bow (*chunga la buta*) is made from the young branches of *Grewia fallax* (*mkomamkuru*) or any other trees of that family, which is strong and pliable and allows for a certain amount of decorative carving. The bow string (*luge*) attached just below the tips of the bow (*solo*) is made from the back sinews of cattle or any of the larger game animals. Weaknesses in an ageing bow are bound with strips of hide or sinew (*kikombe*). The bow string is not permanently fixed to the bow and is usually strung (*-rungila*) more firmly before use. The weight of the average bow is 1¼lbs.

The arrow (*isonga*) of an average length of 32 to 33 inches has many different types of head and weighs between 2ozs., (Plate IV type A and B) and 1½ozs., (Plate IV type C to I). The shaft (*ikumbo*) is made from *gymnolaema tuberosa* (*matala*) a common shrub with a long straight stem which grows in rocky places and has a large bulbous root. Many of the arrows, even in the humblest homes are works of considerable craftsmanship and show a really remarkable degree of skill even in the modern productions, which would be hard to equal anywhere in the world. The flights (*buna* or *nghasa*) of the arrow are usually made from the wing feathers of the Marabou Stork (*Leptoplilos crumeniferous*) (*nghungu*) or the White-backed vulture (*Pseudogyps africanus*) (*mbeshi*) both of whose feathers are easily collected in the bush. Other birds' feathers are also used in the more inhabited areas. These feathers are split and fixed accurately to the shaft by bindings of fine-leg sinews of cattle or game (*ngalanati* or *itimba*). The tail of the arrow is set with a deep notch (*ngaso*) of half the width of the arrow. The arrow head (*lusonga*) of iron or wood fits into a hole (*pegesa*) in the thickened end of the shaft (*butuli*) which is also bound with fine sinew.

The shafts of the arrows are often marked with coloured bars (*mengho*) to denote individual ownership so that in a game drive in which a number of arrows are fired by a team of hunters, the killing arrows can be identified and the dead animal claimed by its owner.

The arrow-heads (*lusonga*) may be of many types varying with locality and tastes of the owner, but out of a collection of some 300 arrows from the northern half of Sukumaland, the following types appeared.

A wood point, Plate IV type H, (*kisengi*) or (*ngalila*) made from the wood of the *Grewia* spp. (*mkoma*) or other hard wood trees and which is not hardened at all, although a busy hunter may carry a bundle of spares

against eventualities. The long flat types, types A and B *(lupyule)* are used for hunting without the use of poison and may have been used for war in the past.

Plate IV type B is reported to be a style imported from the Zinza of Geita district. Type I *(lugoba)* is the true Sukuma arrow which has been developed without outside influence. Type J *(kibolo)* is made of wood and is used for hunting birds.

The remaining types are all used for hunting, with the broad head, Plate IV type D and G *(isono* or *lugoba)* and that with the more delicate flanges, types C, E, and F *(isagengi* or *isono)* being equally common.

The Englishman on a short business trip carries a briefcase with pyjamas and a toothbrush, and the Sukuma going off to a hunt which may be of a much longer duration carries his quiver *(shige)* Plate III, a cylinder of untreated leather, carrying with it everything that he requires for his comfort and survival. The arrows are carried inside the quiver and the whole thing carried round the shoulder by a leather thong, Plate III, F, *(ikowa)* which is also attached to the cap *(nyagamunda)* keeping it firmly closed. Along the quiver is fitted the male stick Plate III, B, *(ipugutilo)* for fire-making with the female part, Plate III, C, *(lupuguto)* attached to the end by a thong. Along the other side may be fitted a string of bird shares, Plate III, E, *(ikila)* a small fishnet *(ngonzo)* for catching mud fish in isolated pools, or a fishing line (*ilobo*). Other fittings may be a small package of medicinal powder, Plate III, D, the local equivalent of aspirin no doubt, a piece of horn which when burnt will keep snakes out of the hunters' small thorn bivouac and other odds and ends of which he may feel the need.

In any quiver it is almost certain to find all the arrows thickly coated with a black viscous arrow poison *(busungu)*. It seems that very little of of this poison is made locally but rather imported from Musoma, although *Strophanthus eminii (msungulu)* which produces a virulent arrow poison, is a common tree on most of the rocky hills of Sukumaland. The poison is bought in bulk at about 100/- for 4ozs. and coated onto the arrow *(-futa)* when required. These very lethal arrows are carried about in the hand during hunts with the heads uncovered, which must be a constant source of danger and there are no doubt a number of deaths annually from such accidents.

In actual shooting *(-lasa* or *-lekela)* the Msukuma whether standing or kneeling takes up an unusual firing position for which no parallels can be found. Although from Plates I and II its difficulty cannot perhaps be readily appreciated, the position should be copied with a bow of 80lbs. pull, and the ensuing pain in the back will prove the point. The elbow pulling the bow string *(-duta)* is at right angles to and away from the body, causing a knotting of the back muscles which is painful to watch. The arm holding the bow is also bent, so there is none of the straight pull of European archery. The arrow is usually fitted into the bow *(-gwasha)* held parallel and near to the ground and is only brought upright to fire. The bow string is pulled by two or three fingers and the arrow rests on the second finger outside the bow so that it is loosely held at both ends.

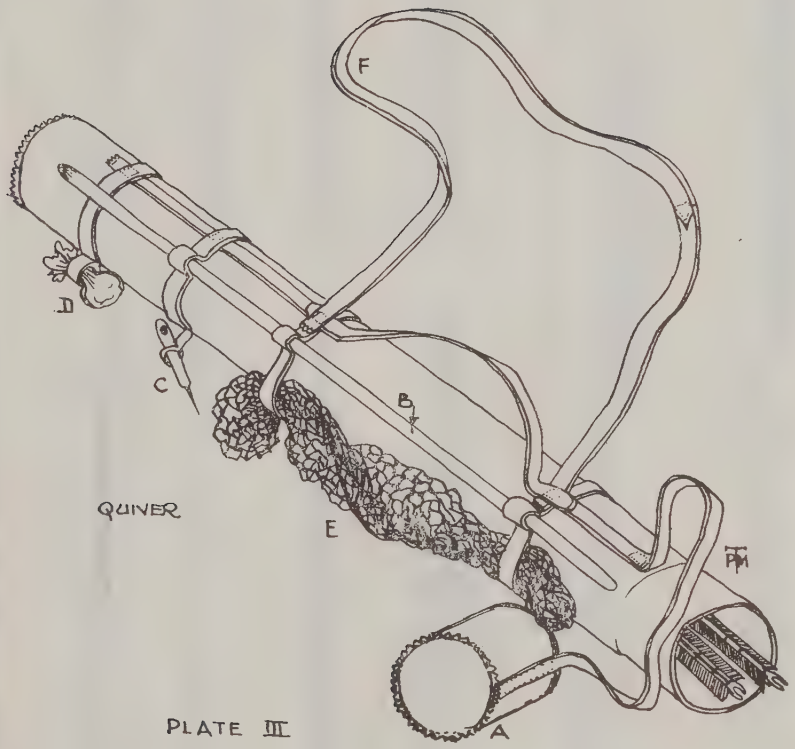


Plate III

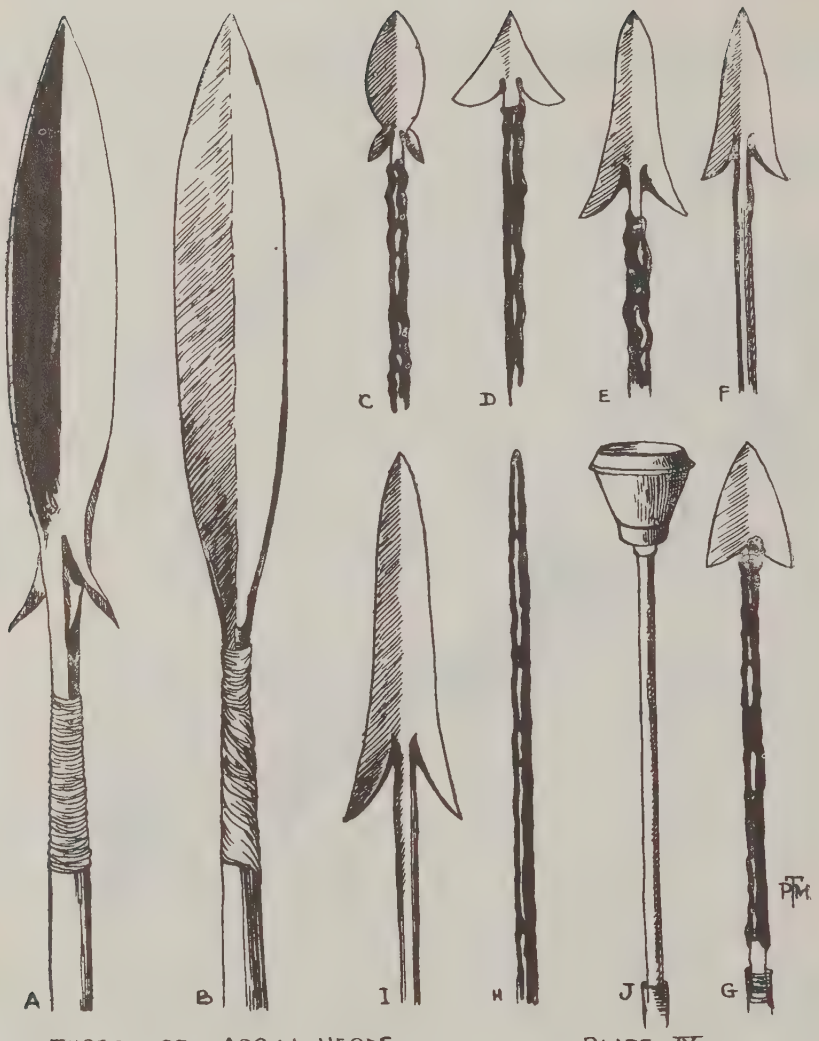


Plate IV

When the archer wishes to shoot at extreme range, the bow is fitted and half pulled pointing at the ground, then swung up high at full tension to be brought down to fire with a stamp of the forward foot—a vigorous and offensive movement carried out with a hiss of breath as the arrow soars away in a high arc.

REVIEWS

"WALL PAINTINGS BY SNAKE CHARMERS IN TANGANYIKA"

By Hans Cory. Faber & Faber. 36/-

Each time there appears a fresh publication from Mr. Hans Cory one wishes that there were a dozen of him—even eight only—so that every province of Tanganyika might have the benefit of an anthropologist and linguist of his calibre, able to work away quietly and sympathetically exploring and uncovering the hidden tribal lore of each area both before it is too late, and towards the mutual understanding of all races.

For it is the author himself who points out in his introduction that this is not in itself an important and far reaching study, but rather that its value lies in the insight that it can give the European into one of the many social and tribal activities that the adult African feels is necessary to lift him and his companions above the material level of his daily life.

Is it not also of great importance to an Englishman in all walks of life, that he should belong to some form of club or society where he too enters a world unconnected with his family and business life? In his case it can range from the simple gathering of those enthusiasts who meet to throw darts together in a tavern, to the more far-reaching and highly organised societies which meet behind closed doors—membership of which demands that no secret of its rules, symbols or paraphernalia may ever be divulged to the uninitiated. For him too—as with the African—rules and ritual bind him to his fellow membership and create mutual strength and purpose beyond that capable of being evoked by the individual who stands alone.

Perhaps the study of the *similarities* rather than the *differences* between the African and European mentality will serve to heighten our interest and fellow feeling towards the black peoples and thus help counteract our tendency to display a superiority of outlook where our own activities are concerned.

The author has written a description elsewhere of the ceremonies of initiation into the Buyeye—a secret society of snake charmers in Sukumaland, Tanganyika—and now this finely printed little book comes as a sequel to his earlier publication.

It consists of reproductions in colour and black and white of various traditional wall paintings used in the instruction of candidates who are undergoing initiation into the Society. The stories which these pictures illustrate are given in the text.

Normally the paintings are executed on the smooth inside walls of the sacred hut or *Ntanda* where the ceremonies take place—but for obvious reasons, no European would be allowed the opportunity of seeing or recording the paintings in situ. However, Mr. Cory was able to persuade the

artists to paint for him these same pictures, on separate slabs of clay, using their traditional materials of red ochre, white clay, soot and python excrement, and in this way he was able to preserve them and copy them accurately.

At a first glance the designs might be described as children and possessing no particular merit beyond the ability, natural to both children and primitive peoples, to fill a given shape in a manner generally pleasing and satisfying to the eye. But certainly no child's crude representation of the human form would convey such a feeling of the occult, of being 'larger than life'. Almost without exception these paintings possess a frightening quality, not of evil so much as of something unpredictable, something which one might encounter at night and which could change its shape in a flash. No novice of the *Ntanda*, surrounded by these looming figures and symbols, lit only by the flickering light of the hut fire, would be tempted to divulge the secrets that had been revealed to him in such an awesome setting.

The book throws an interesting light on the strength and nature of those occult sanctions which play such a large part in the life of the African. It is, incidentally, a tribute to the patience of the author and to the manner in which he has obtained the confidence and collaboration of these primitive artists, in a field where such collaboration is least to be expected.

P.G.

SUKUMA LAW AND CUSTOM

By Hans Cory, O.U.P. 18/-

Presumably one of the most difficult subsidiary tasks which faces the author of a book like Hans Cory's "Sukuma Law and Custom" is deciding on the eventual lay-out when the book appears in print. Admittedly, a book such as this is bound to have a limited reading public and in the long run is destined to be more of a reference book, but it is a pity that so many different types of print should have been found necessary. This, together with the lettered references to the various areas where the details of the law differ and the amount of vernacular which is used, sometimes by itself, sometimes with the translation, sometimes in brackets—there is no uniformity—all these facts are liable to give the general reader a slight attack of ocular hiccoughs.

The author would appear to take it for granted that in indigenous Sukuma law there was recognized a distinction between criminal and civil law. One of the main problems in improving the standard of the Courts in Tanganyika is the difficulty of enabling the court holders and clerks to understand this distinction, as normal indigenous law recognized no such difference. There is grave doubt whether even in Sukumaland such a difference existed, or exists today for that matter in the minds of the average peasant.

A further criticism can be levelled at the fact that no distinctions are made in the text between what might be termed "customary law", i.e. those matters which are likely to be disputed before the courts, and other cus-

tomary matters, i.e. those customs which are normally followed but which, if broken, are never likely to result in either a prosecution or a claim for damages. It is, however, difficult to see how this comparison can be avoided in a work of this nature, entitled, as it is, "Sukuma Law and Custom".

But although it is easy to criticise, this work must be regarded as a very valuable addition to the body of recorded tribal custom and law which is coming into existence in Tanganyika, in the growth of which the author has played no small part. It must be remembered that the work does not aim to codify the law. It should be used rather as a guide to be followed except in those cases where there are very good reasons for departing from the principles recorded.

P.H.W.H.

THE SOUTHERN NILO-HAMITES

By G. W. B. Huntingford, London, International African Institute 1953, 152 p.p. and 6 maps.

This is a further volume in the Ethnographic Survey of Africa, being Part VIII of the East Central Africa Section. The previous 7 volumes have dealt with (i) the Lake Nyasa Region, (ii) the Bemba of Northern Rhodesia, (iii) the Coastal Tribes of Kenya, (iv) the Nilotes of the Sudan and Uganda, (v) the Kikuyu and Kamba, (vi) the Northern Nilo-Hamites and (vii) the Central Nilo-Hamites.

It may be because this is the first volume to deal with the Tanganyika tribes—so possessing a patriotic appeal to the reviwer—but this publication certainly strikes me as one of the best in the series. Of the Kenya tribes it covers the Nandi, Kipsigis, Dorobo, Suk and sundry other small groups, then the Masai, a tribe split by the interterritorial boundary, and finally certain tribes peculiar to Tanganyika. Of these the Tatog are included by virtue of their Nilo-hamitic origin, and the Iraqw, Hadzapi (Kindiga) and Sandawe as 'unclassified' folk who fit better into this volume of the series than any other.

This series is what it sets out to be, an Enthographic Survey, a general culling of the literature, both ancient and modern. In spite of the personnel and funds devoted to postwar research, there still appears to be more available literature in the form of travellers' tales and the old type ethnography, than the modern approach which places the primitive culture against the changing background of culture contact, imposed systems of law and government, alien religions and a money economy. Hence the Survey will disappoint those who wish to examine the primitive societies dealt with in the current context, but this volume less than most. It generally avoids the pitfall of confusing past and present which was typified in Part V, the Kikuyu and Kamba of Kenya, in which on p. 23 one reads:

> "(b) Agriculture Implements. The Kikuyu have two principal agricultural implements, a seven-foot wooden stake (Routledge's "crowbar") and an iron tipped digging-stick; the Meru use a wooden digging stick. Other tools used include the knife and the axe. Today the imported iron *panga*—a heavy one edged knife —is widely used".

In a work published in 1953 this is definitely misleading; for as reference is made to one imported implement, the *panga*, the uninitiated would be justified in assuming that this is the only imported implement; in fact the iron hoe, the plough and even the tractor find their place in modern Kikuyu agriculture.

Mr. Huntingford has generally avoided this trap, but in the case of the Sandawe we read (p. 138). "Both men and women wear a skin girdle from which hangs in front a strip of skin or cloth———". "Men sometimes wear a lion-guard of cock's feathers———". There is no mention of the fact that of all the tribes dealt with, the Sandawe have changed most in dress, in religion, in the acquisition of Swahili and in the habit of wage earning outside their tribal area. Nor, in the case of the Sandawe, is mention made of the tsetse problem; it is more acute here than in the case of the Iraqw cluster, where the subject is touched on.

It is of some interest to set out the tribes dealt with in a table giving their population and the space devoted to them in the survey. The former figure is interesting in itself, and the latter indicative of the amount of material available. The 3 largest Nilo-Hamitic tribes, Masai, Kipsigis and Nandi, have adequate space devoted to them. The Iraqw cluster, the third largest group dealt with in this volume recive a scant 5 pages. But our knowledge of these folk will be increased when Dr. Winter, a Senior Research Fellow of the E.A. Institute of Social Research, concludes the project on which he is now engaged.

TABLE

Tribe or Group	Population (1948 Census)	Pages in the Survey
Nandi	112,849	21
Kipsigis	157,211	14
Dorobo of Tinderit	226	16
Dorobo other	—	1
Elgeyo	40,414	4
Other of Nandi Group ...	23,734	3
Suk	60,776	13
Other Suk types	29,542	1
Barabaig	27,600	10
Masai	187,000	24
Iraqw	138,122	5
Hadzapi	1,000 (say)	3
Sandawe	23,366	5

In such a broad survey the sins of omission and commission are remarkably few. Under the Suk one is sorry to see no reference to the Dini ya Msambwa movement, which was a very remarkable manifestation among such a primitive tribe. In dealing with the Tatog it is stated that the census figures are confusing, but this is not so when it is realised that there are non-Tatog in the Barabaig chiefdom, and Tatog in all three non-Barabaig chiefdoms of the Mbulu District.

The Barabaig Chiefdom numbers 23,382 which from Census Table III are seen to consist of 12,808 Tatog—55% and 9,135 Iraq 39% plus another 6% not detailed. The figure "main tribes of District: Tatog," is erroneously given an asterisk in the Survey, with a note reading "includes some Iraqw and Gorowa". In fact it means what it says: 20,158 Tatog in the district. As we know there are 12,808 Tatog in the Barabaig chiefdom, the number in the other Chiefdoms must be 7,350. Reference in Table III in fact shows 5,390 Tatog in Iraqw and 1,903 in Gorowa, leaving a balance of 53, presumably in the fourth chiefdom of the district Mbugwe.

Another branch of the statistics which one would like to see more fully developed both in respect of the Barabaig and others concerns polygamy. One reads that the average Barabaig man has at least two wives, many three and four and the richest 18. Where does this apparently large excess of women over men come from? Are the Barabaig intermarrying with the Iraqw at a greater rate that the reverse is taking place? Or is there—the usual way in which a heavy polygamy rate is accounted for—a big differential in the marriage age of men and women?

One final small point in the Barabaig section:—"clarified butter" is a highly refined article produced by a special process and far removed from the indigenous product properly referred to as "*ghee*".

In the case of the Burungi, in the text, p. 128, this tribe is wrongly referred to as dwelling to the North of the Rangi. In the end map they are correctly placed, but the Alawa or Wasi who should in fact appear to the North of the Rangi, are shown to the South, as neighbours of the Burungi.

One point in the Hadzapi (Kindiga) section; Mkalama was, but is now no longer in the Kondoa District. It was at one time a district on its own, but at present comes under Singida.

Not the least valuable part of this book is the bibliography; of 120 entries 25 refer to the Tanganyika tribes. The Index, a feature which does not appear in all volumes of this series, is comprehensive.

Having drawn attention to some slight slips, which can easily be rectified in a subsequent edition, I repeat what I said to start with. This is quite the best general source book for the tribes which is covers—the *only* one in many cases—and as such should be in the hands of all Government officials, missionaries and settlers who are in contact with the tribes concerned. One can only hope that the subsequent volumes dealing with remaining tribes of Tanganyika maintain the same high standard.

H.A.F.

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MARITIME RELICS OF THE 1914-18 WAR

By G. W. Hatchell

There are a number of wrecks to be found along the Sea Coast of Tanganyika which are relics of the 1914-18 War and the result of naval activities which occurred at the time.

Since these activities closely concern the history of Tanganyika and its transfer from German to British occupation; it seems desirable to place some account of them on permanent record in the pages of *Tanganyika Notes and Records.*

A complete account of naval operations, both on the coast and on the three great lakes, might well run into two large volumes: too lenghty for inclusion in this Journal. It is proposed therefore to confine this account to the wrecks and their story.

Those readers who desire fuller information cannot do better than consult Mr. E. Keble Chatterton's books, "Koenigsberg Adventure" and "Severn's Saga", General von Lettow Vorbeck's "Reminiscences of East Africa", General Fendall's "East Africa Force 1915 to 1919", General Crowe's "Smuts Campaign in East Africa", and Nos. 6, 16 and 23 of *Tanganyika Notes and Records* where may be found valuable records by Commander Lane and Colonel L. B. Cane.

In considering the wrecks to be found on the sea coast of the Territory it will be convenient to work from north to south and the first to be encountered is that of the *Kronborg* in Manza Bay, between Tanga and Moa.

In August, 1914 there was lying in the port of Hamburg the British steamer *Rubens.* Unable to escape when hostilities broke out, she was interned. She was a vessel of some 3,600 tons of the "three-island" type to be seen on every ocean: with her two well-decks, centre-castle and single funnel she was inconspicious and unremarkable in appearance.

It was known to the German Government that its Forces in German East Africa were ill-equipped and that, if they were to defend the Colony with any success, they must receive material aid in the shape of arms, ammunition, clothing and medical stores; moreever the Light Cruiser *Koenigsberg* was operating in East African waters and would require coal and ammunition. These needs could only be supplied by sea, and ideal for the purpose was the *Rubens* with her ample cargo space and unremarkable appearance, which would enable her to move about the oceans without attracting undue attention.

Since the story which follows is closely linked with the *Koenigsberg* it may be well here to say something about her. She was a light protected cruiser of 3,350 tons with a speed of about 24½ knots. She was armed with ten 4.1 inch guns of modern pattern for she was but seven years old. Her sister ship *Nurnberg* took part in the battle of the Falkland Islands

and her 4.1 inch guns had consistently out-ranged the 6 inch guns of the British Cruiser *Kent*. The *Koenigsberg* was coal fired and had a bunker capacity of 850 tons. She was commanded by Captain Max Loof and had been in commission sufficiently long for her to have been "worked-up" into a thoroughly efficient fighting machine.

The German Government decided to employ the *Rubens* as a supply ship in which to send the needed equipment to East Africa. They renamed her *Kronborg,* provided her with false papers purporting to be Danish and placed her under the command of a naval officer of the reserve: Lieutenant Christiansen. She was loaded with 1,600 tons of coal for the *Koenigsberg* and a great quantity of arms, ammunition and stores. In order to complete her disguise as a harmless Danish merchantman, she was given a conspicuous cargo of Baltic timber, carried on deck. She sailed from Hamburg on the 19th February, 1915 and passed up the North Sea, but instead of taking the longer and safer route which passed close to Iceland she took advantage of the long dark nights to slip between the Orkney and Shetland Islands and out into the Atlantic. Avoiding the shipping lanes and giving the Cape of Good Hope a wide berth, she arrived at the Island of Aldabra, in the Indian Ocean, on the 8th April, 1915.

She had already been in wireless touch with the *Koenigsberg,* which was then lying in the Rufiji River and had been instructed to make contact with her in Latitude 6 south and Longitude 45 east or about 400 miles north-east of the Rufiji. The messages had been intercepted by both British and French stations and although they were in cipher they were sufficiently decipherable to make clear what was intended. To frustrate this, the blockade off the mouth of the Rufiji was strengthened and there were in position the 6-inch gun cruiser *Chatham,* the light cruiser *Pioneer,* the armed merchant man *Kinfauns Castle,* with 6-inch guns, and five small craft armed with 12 and 18-pounder guns. In the face of this superior force Captain Loof decided that he would be unable to get out of the River to make contact with the *Kronborg* and he ordered her to abandon the plan and to go to Manza Bay, between Tanga and Moa, where the topographical features, once she got inside, would screen her from observation. These instructions were intercepted and the British cruiser *Hyacinth* was detailed to keep watch over the entrance to the Bay. Just before dawn on the 14th April, 1915 *Hyacinth* observed a dark object between her and the shore and gave chase. As the light increased it could be seen that there was a ship about to enter Manza. At this point the cruiser's starboard engine broke down and the ship disappeared into the bay pursued by shells from the cruiser. After a delay of a quarter of an hour *Hyacinth* was able to move and on entering the bay saw the ship beached and on fire in the shallows at the north end of the Bay. It was the *Kronborg.*

A party was sent in, in small boats, to discover if the fire could be got under control and the ship brought out but this was found to be impracticable for the deck cargo of timber was well alight. *Hyacinth* therefore fired a number of shells into the ship at the water-line with the object of immobilising her, and sailed for the Rufiji, where her services were urgently required to assist in the blockade. It was hoped that the fire would complete the destruction of the *Kronborg* and that her cargo

would be completely destroyed. This hope, however, was not realised for General von Lettow Vorbeck in his reminiscences says: "In the ensuing weeks the whole of the valuable cargo was salved but it was found that the cartridges had suffered severely from sea-water and many miss-fires occurred. There was nothing for it but to break open the whole of the ammunition, clean the powder and replace the caps and for weeks all the Askari we could lay our hands on were employed at Moshi in making ammunition." The General goes on to say the arrival of the *Kronborg* aroused tremendous enthusiasm and many who had been despondent took courage when they learnt that what appears impossible can be achieved by effort sustained by determination." Although the *Kronborg* carried a large cargo of supplies for the land forces of German East Africa it has since become known that her primary object was to act as a collier and supply ship to the *Koenigsberg* to enable her to return to Germany.

The *Kronborg* was beached on an even keel and almost dry at low-water spring-tides. Her funnel, although pierced by shells, remained upright and so she remained until 1939 when the writer last saw her. It was the intention of the Royal Naval Air Service to make use of her as a bombing target during the late war but no great damage was done to her and she remains a record of the enterprise and determination of Lieutenant Christiansen whose achievement in bringing her safely from Hamburg was no small one.

Proceeding southward along the coast the next wreck to be considered is that of the steamer *Markgraf* which lies in Tanga harbour.

The *Markgraf* was a cargo-cum-passenger steamer owned by the German East Africa Line and employed, with the *Koenig,* the *Praesident,* the *Admiral* and the *General* on their Bombay-Durban service. The *Admiral* was interned at the outbreak of war in Delagoa Bay and later, in 1920, appeared under Portuguese management on a service between Lorenço Marques and Lisbon. The *General* was interned in Bombay and of the *Koenig* and *Praesident* we shall hear more as this narrative proceeds.

Returning to the *Markgraf* : she was a steamer of about 3,300 tons, coal fired and of very moderate speed. When hostilities commenced she was in the vicinity of Tanga and took refuge there, berthing at the south-western end of the harbour in the shelter of Toten Island.

The British Naval Forces were not numerous on the coast and were fully occupied in keeping observation on the *Koenigsberg.* There was, moreover, always the menace of the German cruiser *Emden* which at that time was operating, with considerable success, as a commerce raider in East Indian waters, and there were other armed German vessels known to be at sea. Any of these might suddenly appear on the coast to cut the supply lines of the British land forces in East Africa. Who could say if the *Markgraf* would not be fitted out as a commerce raider also? Her very presence in Tanga created a need for a constant watch over her by ships which could ill be spared from other duties but it was not until August, 1915 that steps could be taken to eliminate her. On the 19th August, 1915 the British cruiser *Challenger* accompanied by the monitor *Severn* and the

armed whalers *Pickle* and *Fly* were able to concentrate off Tanga. The entrance to the harbour having been swept for mines by the whalers *Salamander, Rattler* and *Charon,* the monitor and the two whalers entered the harbour and in the face of heavy artillery fire, from guns located on the southern and south-western shores, shelled the *Markgraf* until she heeled over. *Pickle* then laid alongside with the intention of placing demolition charges, but the fire from the shore became so hot that she was ordered to withdraw and in order to ensure that the *Markgraf* was rendered unserviceable a number of six-inch shells were fired into her at the water-line. The ships then shelled the Customs sheds and the jetty, leaving them ablaze, and proceeded out of the harbour. On the way out a lighter full of mines was observed close to the position of the present Yacht Club. Fire was opened and the lighter went up in a vast explosion. When entering the harbour the ships had encountered a buoyed wire stretched across the entrance and it is supposed that this was used for positioning the mines which, on that day, had been lifted for inspection and adjustment.

The *Markgraf* still lies on her side in Tanga harbour. Her hull has been gutted of everything of value but it is believed that her phosphor-bronze propeller is still in position. Her funnel remains standing and it is a tribute to pre-1914 paint that some of the painted bands on it still retain their colour. She is now in the process of being broken up for scrap.

The next harbour to be considered is that of Dar es Salaam, where there are a number of wrecks. Amongst them are those of the *Tabora, Koenig, Moewe* and the floating dock.

The *Tabora* was a vessel of some 8,000 tons owned by the German East Africa Line and employed on the Hamburg—East Africa service. She was the "crack ship" of the service and only surpassed by the luxurious *Kigoma* which reached the coast on her maiden voyage in June, 1914 and, on the homeward voyage, reached Hamburg in safety before war broke out. On the 3rd August, 1914 the *Tabora* was in Kilindini (Mombasa) discharging cargo. Word reached her that war was imminent and during the night she cast off the lighters alongside and put to sea through the narrow entrance, without a pilot and without papers. She reached Dar es Salaam in safety next day.

In the early days of August, 1914 His Majesty's ships *Astrea* and *Pegasus* visited Dar es Salaam and shelled the high-power wireless installation there. General von Lettow Vorbeck comments that "the ships were aiming at the wireless tower which was of importance to us because the high-power station at Tabora was not yet finished and the two smaller ones at Bukoba and Mwanza were only for local use. The tower was not hit by the British but was blown up by us in a rather excessive fear of its falling into the hands of the enemy."

The Acting Governor of Dar es Salaam came off to the ships which were lying in the outer anchorage, and some agreement was reached with him that the ships in harbour should refrain from any hostile act, that nothing should be removed from them and that their wireless aerials should be sent down. In return it was agreed that Dar es Salaam should

not be bombarded. The agreement, which was made by two officers who afterwards lost their lives in the *Pegasus,* was not ratified by the British Admiralty nor was it considered valid by other ships of the Royal Navy.

Nevertheless it seems likely that they were willing to conform to it so long as nothing occurred to suggest that it was not being adhered to by the Germans. General von Lettow Vorbeck comments that he disapproved of it and that in his opinion any negotiations with the enemy should have been conducted by him not by the Civil Authority, but that the latter had refused to accept his intervention on the grounds that the law placed the supreme Military power in the hands of the Civil Governor. He remarks that "in the eyes of a soldier it was not inspiring to find that under the eyes of a thousand good troops — camped at Pugu — an agreement had been reached which forbade us to undertake any hostile action while the enemy was not so bound." He remarks that "for the moment the agreement had no practical consequences."

As will be seen, events occurred which suggested strongly that the agreement was not being adhered to by the Germans and in consequence Dar es Salaam was bombarded and some of the ships rendered unserviceable.

Shortly after the visit of the *Astrea* and *Pegasus* the Germans decided to block the entrance to the inner harbour of Dar es Salaam by sinking their dry-dock in the channel. Their efforts were frustrated by the strong tidal current which swung the dock onto the eastern shore and out of its intended position so that it did not provide the complete obstruction which had been planned.

It will be remembered that the German cruiser *Koenigsberg* was in East African waters at the outbreak of war. At the time of the visit of the *Astrea* and *Pegasus* to Dar es Salaam her whereabouts was something of a mystery. It was known that, on the 6th August, 1914, she had, in the Gulf of Aden, intercepted and captured the British steamer *City of Winchester* and there had been reports of her having been seen in various places in the Indian Ocean. At one time it was thought that she might be co-operating with the *Emden* or that she might have left East Africa altogether with the intention of returning to Europe.

On the 20th September, 1914 the British cruiser *Pegasus* was lying in Zanzibar with fires drawn, cleaning boilers. At daybreak the *Koenigsberg* suddenly appeared off Chumbi Island and opened fire at 10,000 yards. *Pegasus,* immobile and with guns which were outranged by those of her opponent, was soon reduced to a wreck and suffered heavy casualties. The *Koenigsberg* then made off in a southerly direction and once again disappeared.

During the bombardment *Pegasus* heeled over and her guns were thrown clear of the ship and into the water. Commander Ingles, who was in command of the ship, set about salvage operations and succeeded in recovering the guns. Three of them, fitted with field carriages, became the 10th Heavy Battery under command of Captain G. St. J. Orde Browne

R.A. (Retd.) who had been serving as an Assistant District Commissioner in Kenya at the outbreak of war and in later years became Labour Adviser to the Secretary of State for the Colonies.

The 10th Heavy Battery formed part of the force, under the command of General van Deventer, which advanced from the Kilimanjaro area towards the Central Line by way of Kondoa, where it encountered considerable resistance. In the course of the operations the 10th Heavy Battery put a shell into the enemy headquarters, slightly wounding the German Commander, General von Lettow, himself. This he recorded in his "Reminiscences" although he does not seem to have known that the gun which fired the shell had been salved from *Pegasus*.

As will appear later, the German cruiser *Koenigsberg* was eventually located and destroyed in the Rufiji River by H. M. Monitors *Severn* and *Mersey* and her guns, also, were thrown clear of the ship to be salved by Lieut-Commander Schonfeld. Mounted on field carriages they were employed in various parts of the colony far distant from the Rufiji. In June, 1916 one of them was brought up to Kondoa Irangi to assist in the resistance to General van Deventer's advance and thus it came about that in the heart of Africa and many miles from the sea the guns of the sunken Pegasus encountered those of the derelict *Koenigsberg* once more.

The need to reinforce the British fleet in East African waters was clear and the Admiralty despatched the powerful modern cruisers *Chatham, Weymouth* and *Dartmouth* to deal with the situation. With their speed of 26 knots and their modern 6-inch guns they would be more than a match for the German cruiser.

In early October reports seemed to suggest that the *Koenigsberg* might be in Dar es Salaam and, that prior to her expedition to Zanzibar, she had been there. Accordingly, on the 20th October, 1914, *Chatham* made an inspection of the Port. She anchored off Makatumbi Island and from that position was able to observe the mast-heads of three ships within the harbour and to see that their wireless aerials were in position. A warning shot was fired and signals made calling on the Germans to send out a representative. After twenty minutes, there being no response, *Chatham* opened fire on one of the ships which seemed to bear some resemblance to the *Koenigsberg* particularly in the rigging of her wireless aerial which seemed to be in "navy fashion" rather than in that usually employed by merchant ships.

This produced a response in the shape of white flags at various positions in the town and on the signal station at the entrance. It also produced the Acting Civil Governor and the Harbour Master in a high state of indignation at what they regarded as a breach of the *Astrea* agreement. Some difficulty was experienced in the ensuing conversations owing to the lack of an interpreter and it was decided that *Chatham* should go over to Zanzibar for the purpose of fetching Mr. King, the former British Consul in Dar es Salaam, who could act in that capacity. Next morning *Chatham* returned and again the Acting Governor came off. He was informed that an inspection party would be sent in to the harbour to verify that the *Koenigsberg* was not there and to verify that one of the ships, which was

flying a hospital flag, was in fact, a hospital ship. The inspection established that the German cruiser was not in Dar es Salaam and that the ship flying the Hospital flag was the *Tabora*. The remaining two ships were identified as the *Feldmarschal* and the *Koenig*.

A full account of the affair is to be found in Mr. Keble Chatterton's *Koenigsberg Adventure* — including verbatim reports of the conversation with the German Civil Governor — and is of considerable interest.

Meantime the *Koenigsberg* was still missing and there could be no certainty as to her whereabouts; although it was at least certain that she was not in Dar es Salaam. The name Salale had cropped up in a number of reports concerning her but such a place had not been identified nor was it certain that Salale was the correct name. At the same time there was apprehension that one of the ships in Dar es Salaam might slip out to make contact with the cruiser to supply her with coal. That this apprehension was not without reason will be seen later when the activities of the German merchant steamer *Praesident* come to be considered.

Accordingly on the 28th November, 1914 His Majesty's ships *Goliath*, a 12-inch-gun battleship, and *Fox* visited Dar es Salaam with the object of disabling the ships lying there. Once again the Civil Governor, Herr Human, came out to the ships. He was informed that it was proposed to send in two small craft, with a surgeon and a demolition party, to inspect the *Tabora* and to disable the ships. Herr Human endeavoured to gain time by saying that he must consult with the Military Commander, but this was not accepted. He was informed that he would be allowed a short time in which to make known to the inhabitants of the town what was proposed and he was warned that any interference with the operation would invite reprisals in the shape of a bombardment.

Two small craft then proceeded into the harbour and the surgeon visited the *Tabora* which had the outward appearance of a Hospital Ship. He found little to confirm that she was in fact what she purported to be, although it is true that he found a "patient" in bed, but on removing the blankets he discovered that the man was still wearing his trousers! The other small craft visited the other ships and proceeded to disable them and to take off some of the British Indian lascar crew of the *Koenig*. A full account of the operation is to be found in Commander Lane's "Naval visit to Dar es Salaam" which appeared in No. 16 of *Tanganyika Notes and Records* and it is only necessary to say here that on completion of the operation there remained in Dar es Salaam the *Tabora*, the *Koenig*, the *Feldmarschal* and a small vessel called the *Kaiser Wilhelm II*, while at the extreme southern end of the harbour were the remains of the naval survey vessel *Moewe* to which reference will be made later.

General von Lettow Vorbeck, in his Reminiscences, comments on the affair as follows: "On the 28th two men of war appeared off Dar es Salaam and demanded to inspect our ships. Amongst others there was the *Tabora* which had been converted into a hospital ship. I wired that the entry into the harbour of a pinnace should be resisted by force of arms. Unfortunately however it was conceded by the Civil Authority against my

opinion. The English however came in not with one pinnace but with several small vessels and proceeded to carry out demolitions on board the *Tabora* and even took some of her crew prisoner. Captain von Kornatzky was just in time to open effective machine gun fire on the small English vessels as they passed out of the narrow entrance."* This action on the part of Captain Kornatzky resulted in the town and ships being bombarded by the *Goliath* with her 12-inch guns and the Governor's residence being reduced to ruins.

The Germans now decided that the sunken dock was an insufficient obstruction in the entrance to the harbour and attempted to improve matters by sinking the disabled *Koenig* abreast of it. Once again the tidal current took charge and the *Koenig* was swung out of position and on to the western bank of the channel, leaving a passage through which ships of considerable tonnage might pass but for the chain cables which had been employed to secure the *Koenig* to lighters which had been sunk on the eastern bank. When the British eventually occupied Dar es Salaam, in June, 1916, those cables were removed and thereafter ships of up to 10,000 tons were able to enter the harbour. In later years the *Koenig* was moved to a berth at the southern end of the harbour, but efforts to move the dock were not entirely successful and plans are now being made to demolish it with explosives. The *Feldmarschal* was not seriously damaged and shortly after the British occupation of the port she left under her own steam and under the British flag. The *Tabora* had been shelled and was lying on her side opposite the dockyard but it is not altogether certain whether she was overturned during the bombardment of the 28th November or on a subsequent occasion. *

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* Commander Lane points out that the white flags were still hoisted when fire was opened. — Ed.

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* On the 23rd March, 1916 the British Ships *Vengeance* and *Hyacinth* (see Appendix 1 for armament) visited Dar es Salaam and bombarded the town. During the operation nine shells were put into the *Tabora,* which heeled over. Dar es Salaam was again bombarded on the 23rd July, 1916 by H.M. ships *Vengeance, Challenger* and *Mersey.*

During November, 1952, in the course of dredging operations in connection with the new deep-water wharf an unexploded 12-inch shell was brought up and there was some speculation as to its origin. It was stated that a number of shells which fell into and around the town had failed to explode and old residents recalled that it was currently stated that the German authorities had examined them and found them to be filled with sand. The explanation being that they had been manufactured in the United States, where patriotic German workmen had doctored them.

The more probable explanation seems to be that the shells were of the type intended to detonate on impact with armour plate and that, falling in the soft sandy soil, the impact had been insufficient to explode them. Support is given to this by the fact that when the British forces entered Tanga in June, 1916 ten unexploded 12-inch shells were found ornamenting the plinth of the Bismarck statue and a gunnery officer off one of the ships told the writer that on examination they were found to be in good order but that the impact when falling on soft earth had been insufficient to detonate them.

No doubt the story of the sand-filled shells would have done something to hearten the inhabitants of shell-stricken Dar es Salaam and the German authorities made the most of it.

At the extreme southern end of the harbour lay the wreck of the *Moewe.* She was a small naval craft of about 650 tons: employed as a survey ship. She was lying in Dar es Salaam when war broke out and her Commander, Lieutenant Zimmer, considered the possibility of arming her and using her as a commerce raider. Her bunker capacity, however, was too small to permit of any protracted expedition and the only armament which Zimmer could get hold of consisted of two 22-pounder guns of very obsolete pattern. He therefore abandoned the idea and, on the 8th August, 1914, scuttled the *Moewe* and placed himself and his crew of 106 at the disposal of the Military Commander. Subsequently he and his crew went to Kigoma, on Lake Tanganyika, where they joined the Lake Steamer *Hedwig von Wissman,* which was later sunk by the fast British motor launches *Mimi* and *Toutou* assisted by the Belgian vessels *Dix Tonnes* and *Vidette.* General von Lettow mentions that early in August, 1914 the newly commissioned German steamer *Goetzen,* which was based on Kigoma, made an expedition to the Rhodesian port of Kituta, at the Southern end of the lake, and destroyed two British hulks which were laid up there. One of these he says, was the *Cecil Rhodes.* The present writer has been unable to discover any further information about these ships: perhaps readers of this Journal may be able to assist.

The next wrecks to be considered are those in the Rufiji River and Delta (see Map). They include the cruiser *Koenigsberg,* the German steamer *Somali* and the British steamer *Newbridge.*

The *Koenigsberg* had been based on Dar es Salaam when war broke out and put to sea to commence a career as a commerce raider. Her main difficulty in this role seems to have been coal for, as has been seen, she failed to make contact with the *Kronborg* and was unable to get at the 120 tons of coal lying in Dar es Salaam owing to the entrance to the harbour having been obstructed. On the 31st July, 1914, before leaving Dar es Salaam, she had embarked coal to her full capacity of 850 tons, but with ships of her type, steaming at high speeds, consumption of fuel was heavy. A reference to "Jane's Fighting Ships" (1939 Edition) shows that the Turkish cruiser *Hamidiye,* which was of the same tonnage and speed as the *Koenigsberg* and with 750 tons bunker capacity, had an endurance of only 5,000 miles at 10 knots — about half speed.

As will be seen, it was necessary for the *Koenigsberg* to coal again from the *Somali* in the Gulf of Aden on the 21st August, in spite of the fact that she had obtained supplies from two German merchant ships which she encountered off Socotra and from the *City of Winchester* which she had captured. Even with this additional fuel it was necessary for her to coal again, only ten days later, from the *Somali* at Aldabra on the 1st September. She thus required fuel five times during the month of August and at that rate of consumption it must have been a matter of considerable difficulty to keep her supplied. Moreover she developed engine defects which could not be dealt with outside a dockyard. She therefore entered the Rufiji river and concealed herself while the damaged parts were removed and arrangements made for their transport overland to Dar es Salaam where the dockyard could deal with them. She never left the Rufiji again and in July, 1915 was destroyed by the British Monitors *Severn* and *Mersey,* to which reference will be made later.

The *Somali* was a steamer of some 2,500 tons, built in Hamburg in the nineties. She was employed in the coasting trade and was in Dar es Salaam when war broke out. In accordance with a pre-war plan she put to sea as a tender to the *Koenigsberg*. She accompanied the cruiser to the Gulf of Aden and, on the 21st August, 1914, coaled and provisioned her in a secluded inlet in the neighbourhood of Ras Hafun. It was arranged that she should again rendezvous with the *Koenigsberg* at the Island of Aldabra, * which lies between Madagascar and the Seychelles. She arrived there on the 30th August; to be followed by the *Koenigsberg* on the 1st September. Coaling proceeded all day and at dusk the *Koenigsberg* left, having emptied her supply ship of coal and stores. Unable to enter Dar es Salaam, the cruiser went into the Rufiji River and anchored off the village of Salale, where she was joined a few days later by the *Somali*. It was from Salale that the *Koenigsberg* set out on her destructive expedition to Zanzibar and it was to Salale that she returned, but this was not known to the British until some weeks later.

The name Salale had cropped up in connection with the *Koenigsberg* as early as the 30th September when *Chatham* raided the Island of Kome, where the Germans had established a signal station. There was found at Kome a diary in which, under date 25th September, appeared an entry which indicated that the *Koenigsberg* was at ..... somewhere spelt with six letters, but whether it was Saloli or Solalo or Salale was difficult to determine, for the diary was written in German script; moreover lack of close acquaintance with the names of villages on the mainland and in the delta of the Rufiji made it difficult to identify any of these possible names. It was not until the 29th October when *Chatham* sent in a small party to investigate the village of Kiomboni that it was discovered that the place was Salale and that it was within the delta.

The way of this was that the landing party captured three villagers whose names were Turemi, Athman Shamte and Hassani. These men had, on various occasions, been conscripted by the Germans for trench digging, load carrying and other work and were not sorry to escape from it all. It was with their co-operation that Salale was finally pin-pointed and the *Koenigsberg* located. In the ensuing weeks these men were landed on the mainland on several occasions for the purpose of obtaining information about the delta defences and the movements of the German cruiser. The information which they brought back proved to be of considerable value and enabled the ships to destroy by gun-fire a number of enemy strong points.

During the month of October, 1914 the small steamers *Ruvuma, Gertrude* and *Hedwig* reached the delta from Lindi, bringing with them

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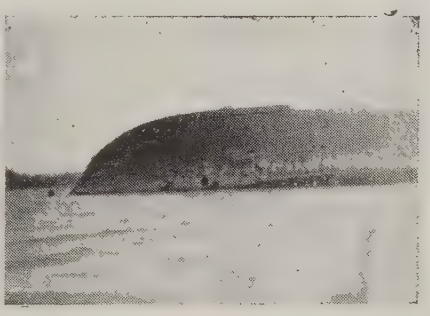
* Aldabra approximately 45 dg. E and 8 dg. South lies almost due east of Lindi some 450 miles. It is some 24 miles long by 6 miles wide but the greater portion of its interior is taken up by a tidal lagoon. It was at one time a fruitful source of guano but the deposits were becoming exhausted when the concessions of the private companies came to an end in 1948. It is particularly notable as being one of the only two places on the globe — the other being the Galapagos — where the giant tortoise still exists in its wild state and it is satisfactory to know that it is preserved by law against the ruthless destruction which seems to have overtaken it elsewhere. Certain species of turtle have also been preserved just in time to save them from total extinction.

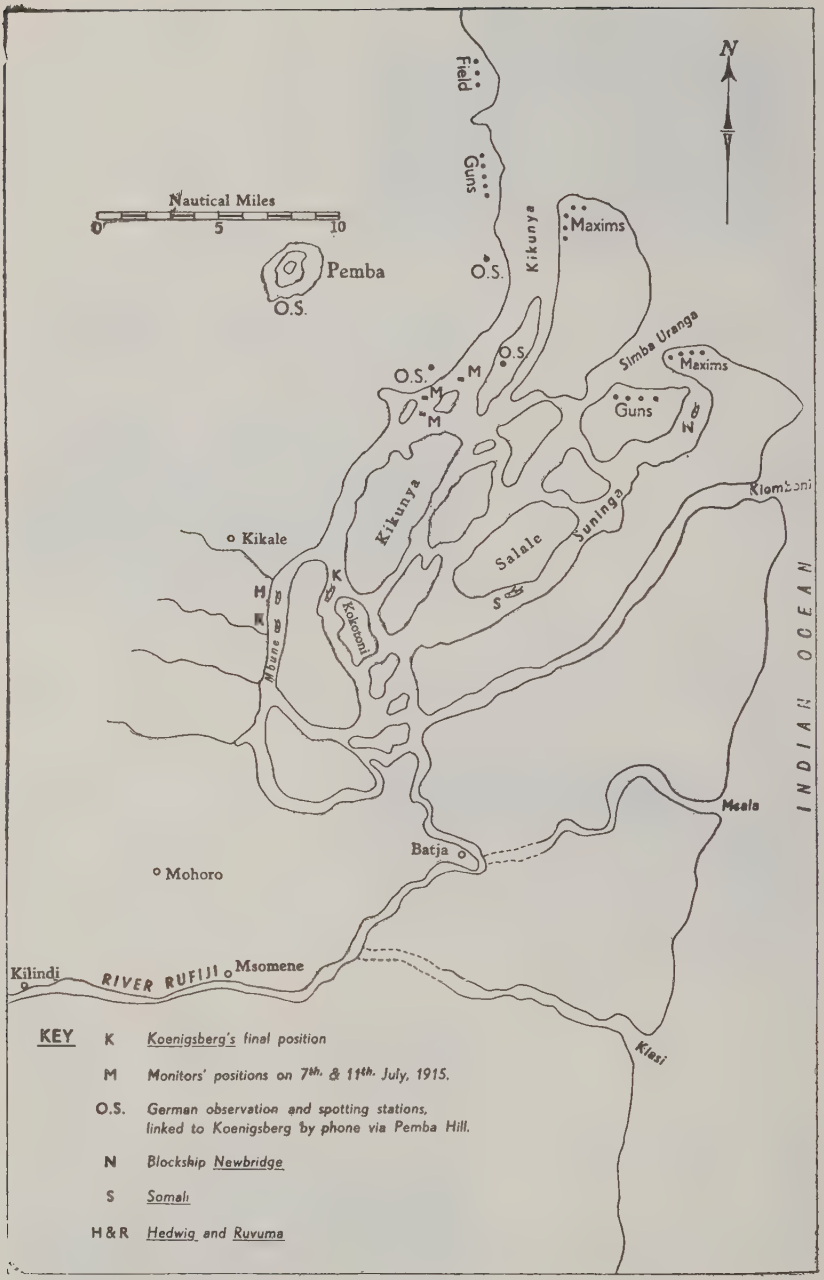
"Kronborg", Main Deck

"Kronborg", General View



Markgraf, showing shell holes

"Markgraf"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Kikale
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K
Kokotoni
Mbune
INDIAN OCEAN
Msala
Batja
Mohoro
Kilindi
RIVER RUFIJI
Msomene
Kiasi
KEY
K Koenigsberg's final position
M Monitors' positions on 7th. & 11th. July, 1915.
O.S. German observation and spotting stations, linked to Koenigsberg by phone via Pemba Hill.
N Blockship Newbridge
S Somali
H & R Hedwig and Ruvuma

supplies of coal from the steamer *Praesident* of which more will be heard. In spite of these additional supplies it seems not unlikely that, even if her engines had been in order, the *Koenigsberg* was at this period so short of fuel, and the prospects of obtaining any from other sources so poor, that she was in no position to attempt to smash her way through the blockade and resume her career as a commerce raider; for as we have seen her consumption of fuel at high speeds was considerable and without frequent re-bunkering her range of action must be limited.

The *Ruvuma* was a steel steamer of 144 tons built by the Germaniawerft at Hamburg in 1894. She was 113 feet in length with a draught of 9 feet. The *Hedwig* was a screw steamer of 570 tons with a length of 170 feet and a draught of 13 feet. She had been built by H. C. Stulchen Sohn in Hamburg in 1913 but no information is available about her arrival in East African waters or in what manner she was employed. These two vessels were abandoned by the Germans in the Mbune river, which runs into the Kikunya arm of the delta, but in such a position that it was not until 1920 that they were discovered. In 1923 they were advertised for sale as scrap by the Tanganyika Government.

In No. 20 of this Journal Commander Lane mentions the steamer *Kitomondo*. She was a river steamer of about 73 feet and of very shallow draught. She was built by L. Meyer of Papenberg in 1908 and was advertised for sale with the *Ruvuma* and *Hedwig* in 1923. Commander Lane records that she came into the hands of the Kilimani Estate which operated her on the Rufiji River until 1930 when she was taken to Dar es Salaam and laid up. Her subsequent fate is obscure.

Information about the *Gertrude* is lacking and she did not appear on the list of vessels advertised for sale as scrap in 1923. Perhaps some reader of this Journal may be in a position to furnish further information about her and about the *Kitomondo*.

The German tug *Adjutant* of 250 tons was also involved in the Rufiji operations. She had been captured by a British ship off the coast of Mozambique in August, 1914 and placed under the British flag. Armed with a 3-pounder gun she took part in the delta operation until, on the 9th February, 1915, she was re-captured by the Germans, her main steam pipe having been severed by a shell. After she had been repaired she escaped from the Rufiji and succeeded in reaching Dar es Salaam in safety in April, 1915. She was taken to pieces and sent to Kigoma where she was to have been rebuilt for service on Lake Tanganyika. She never went afloat in fresh water, for the Germans were forced to abandon the lake before she could be made ready and she was blown up while still on the stocks.

Another small German craft operating in the Rufiji was the 50-ton wooden steamer *Wami*. After the destruction of the *Koenigsberg* a blockade had been maintained with the object of keeping these small craft within the river, but on the 29th September, 1915 the *Wami* made her escape to Dar es Salaam where she, too, was railed to Kigoma. She was eventually scuttled by the Germans in the mouth of the Malagarasi river.

There remain two other vessels the wrecks of which are to be seen in

the Rufiji. These are the *Somali,* of which we have already heard, and the British steamer *Newbridge* of 3,500 tons with a draught of 13 feet. During operations against the *Koenigsberg* the *Somali* was shelled and sunk and on the 10th November, 1914 the *Newbridge* was taken into the river under heavy fire and sunk, as a blockship, athwart the Suninga arm of the delta.

The next wreck to be considered is that of the *Praesident* lying in the Lukuledi River near Lindi. It will be remembered that she was of the same class and owned by the same Company as the *Koenig* and the *Markgraf.* It is not altogether clear where she found herself when war broke out but it seems likely that she was in Dar es Salaam. She put to sea and proceeded south into the Mozambique Channel, where she could be on hand to supply the *Koenigsberg* with coal and stores if required.

It was some time before she was located but on the 18th October, 1914 H.M.S. *Chatham,* suspecting that she might be in Lindi, paid a visit to the port and sent in a steam-boat in charge of Commander Fitzmaurice. He was to find out if the *Praesident* was concealed there and if so to deliver to the German authorities a letter demanding that she be surrendered and sent out. He found the *Praesident* concealed in the Lukuledi creek some miles up the river and delivered his letter to the German District Officer. This official replied that the *Praesident* was indeed in Lindi but that she had been converted into a hospital ship for the accommodation of sick women and children and that, in any event, she could not be sent out for her machinery was "not entire."

On this the captain of the *Chatham* sent in Commander Fitzmaurice again but this time a demolition party accompanied him. He carried with him a letter informing the German District Officer that since the ship was not painted as a Hospital ship and her conversion had not been notified to the British Admiralty in accordance with the International Convention, she could not be recognised as such and that a party was being sent in either to bring her out or disable her. On reaching the *Praesident* Commander Fitzmaurice found that she had no sick, no doctors and no nurses on board and that there was nothing to suggest that she was being used as a Hospital ship. Owing to the depth of water available it was not possible to bring her out and accordingly demolition charges were exploded to disable her completely.

The visit was a fruitful one, for indisputable documentary evidence was found which showed that, but five days previously, the *Praesident* had sent off, in tow of the *Hedwig,* several lighters loaded with coal for the *Koenigsberg* at Salale. An up-to-date chart of the Rufiji was also found which amply confirmed the whereabouts of the German cruiser.

The writer is indebted to Mr. A. Atkins, resident in Lindi for many years, for the following information. It appears that very shortly after the outbreak of war the *Praesident* turned up in Lindi with a cargo of rice and proceeding up the river past Lindi town anchored off the mouth of the Ngurumuhamba River where she would be screened from observation from the sea. About a week later a British cruiser appeared off the port and in response to signals a Herr Schultz of the Usagara Company was sent out for conversations. He seems to have satisfied the Captain of

the cruiser that there was nothing of interest to him in Lindi for as soon as Mr. Schultz had been put on shore again the cruiser sailed.

Mr. Schultz, who would as representative of the Usagara Company have been the agent for the German East Africa Line to whom the *Praesident* belonged, then had the ship moved further up the river to Arab House where her cargo was discharged. At the next spring tide she was moved into the broad creek below Nanda Hill, at the point where the Lukuledi River enters the Lindi estuary and where she would be completely screened from observation. Her crew was put on shore and sent overland to Dar es Salaam but her captain and two officers seem to have remained in the vicinity and to have gone to stay at Matope. The ship was placed in charge of an African watchman named Mahomed Ali Kipopo. On the 18th October, 1914, she was located by Commander Fitzmaurice as has already been related and was immobilized by demolition charges. Mr. Atkins relates that later in the war she was repaired by means of cement boxes and towed out but that her subsequent fate is uncertain although she may have been for some time in the service of the Union Castle Company. It is fortunate that in Mr. Keble Chatterton's "Koenigsberg Adventure" there is available a very clear picture of her lying almost high and dry in the creek at Nyanda.

This narrative commenced with an account of a supply ship from Hamburg and it may be appropriate to mention a second, although she did not become a wreck. She was the *Marie,* built at Flensburg. The supplies which she carried were even more valuable to the Germans in East Africa than those carried by the *Kronborg* for they included a battery of 4.1 howitzers, two batteries of mountain guns adapted for mule transport, considerable quantities of ammunition for the *Koenigsberg,* sufficient modern .311 cordite rifles to re-arm most of the force and about five million rounds of small arm ammunition. She carried also a great store of clothing, provisions and medical supplies and sufficient Iron Crosses to provide for all the decorations which had been awarded during the campaign. She reached Sudi Bay, between Lindi and Mikindani, during March, 1916 and although her presence was quickly detected the defences to the bay were so strong that all attempts by small craft to enter for the purpose of destroying her were frustrated. It was not possible to do more than bombard her from seaward. Flames, smoke and explosions seemed to indicate that she had been set on fire and would burn to destruction. This hope was not realised, for she off-loaded her cargo and made her escape to reach Batavia in safety. General von Lettow Vorbeck in his Reminiscences remarks that, "It was particularly advantageous that we were able to bring up four howitzers and two mountain guns" to the Morogoro area to oppose the main advance of General Smuts.

The consistent background to this narrative has been the cruiser *Koenigsberg.* Operating in East African waters at the outbreak of war, she had against her the British cruiser *Astrea* built in 1894, with a best speed of 20 knots and armed with two 6-inch guns and eight of 4.7 inches, the cruiser *Hyacinth,* of 5,000 tons, 13 years old with eleven 8-inch guns and a best speed of 21 knots, and the light cruiser *Pegasus* of only 2,135 tons, built in 1899, with a speed of 20 knots and armed with eight 4-inch guns,

The German cruiser had thus a superiority in speed over any of the British ships and although her guns were of smaller calibre they were very much more modern than any in the British cruisers. It was not until the arrival of the modern cruisers *Chatham, Weymouth* and *Dartmouth* that there was any ship available which could take on the *Koenigsberg* on equal terms.

Once it became certain that the *Koenigsberg* was in the Rufiji river it became necessary to take measures to keep her there until she could be eliminated altogether. In the ensuing months there were upwards of 27 different British ships of war stationed, at one time or other, off the entrance to the river (1). But while with superior armament the ships could make sure that the cruiser did not escape they could not get into the river to attack and destroy her because of their heavy draught.

The draught of the heavily-armed "Town Class" cruisers was $17\frac{3}{4}$ feet as compared with the *Koenigsberg's* $17\frac{1}{2}$ feet, but they were 457 feet in length and of 5,400 tons as compared with the German's 359 feet length and 3,550 tons. Choosing her tides and unopposed by the shore defences, the *Koenigsberg* might have no great difficulty in entering and ascending the river, but an attempt to do so by the larger British cruisers, under heavy fire from the shore defences, must be hazardous and of doubtful value since the operation must be carried out during the two or three hours around the top of the spring tide — too short a time in which to ascend an uncharted river, destroy an enemy and get out again without going aground with the falling tide, to become a sitting target for the shore gunners. It was necessary therefore to provide specialised craft of light draught and heavily armed.

There were at this time monitors employed off the Belgian Coast in Europe. They were of about 1,260 tons, 265 feet long and with a draught of no more than $6\frac{1}{2}$ feet. They were armed with two modern 6-inch guns and two howitzers. At the outbreak of war they had been under construction in British yards for the Brazilian Government and had been taken over by the Admiralty and were named *Humber, Severn* and *Mersey*. With their shallow draught and powerful armament these were the ships which could enter the Rufiji and destroy the *Koenigsberg;* but to take them over the 6,000 miles of ocean which intervened presented some difficulty for, designed for river work, their free-board was no more than $3\frac{1}{4}$ feet, their cruising range was small and with propellers housed in tunnels they were difficult to handle in anything but smooth water. It was decided to make two of them suitable for the ocean voyage by increasing their freeboard by artificial bulwarks and by other measures and to send them to the Rufiji in tow of four ocean going tugs under escort of the armed merchantman *Trent,* a former Royal Mail Company liner. *Severn,* under command of Captain Fullerton R.N., and *Mersey* under command of Commander Wilson R.N., were chosen and on the 14th March, 1915 the flotilla, consisting of the two monitors, the four tugs, H.M.S. *Trent* and the collier *Kendal Castle,* sailed from Devonport. With them went the third monitor *Humber* but she was destined for the Dardanelles and does not come into the story.

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(1) See appendix.

After a difficult voyage, which on more than one occasion almost ended in disaster, *Severn* and *Mersey* arrived at the island of Mafia on the 3rd June, 1915. Much work was necessary before the ships could be put into condition to commence their task: the artificial bulwarks must be removed, the guns re-installed and the ships coaled and provisioned and it was not until the 7th July that they were ready for action.

In the months of waiting the *Koenigsberg* had moved further and further up the river until she took up a position behind Kokotoni Island, where the river divides into the Kikunya, Simba, Uranga and Suninga arms of the Delta. In this position she was invisible to the ships outside and could only be observed by the somewhat unreliable aircraft which were available in those early days of aviation.

The need for aircraft had become apparent immediately the *Koenigsberg* had been located, but machines were hard to come by. A civilian aviator, Mr. H. D. Cutler, was at this time demonstrating his Curtiss hydroplane in Durban and arrangements were made to obtain his services. He was appointed temporary Lieutenant R. N. and with his hydroplane was carried to Mafia by the armed liner *Kinfauns Castle,* arriving there on the 19th November. Lieutenant Cutler was able to carry out valuable reconnaissance work and to obtain photographs of great value until the 10th December, 1914, when he was shot down over the Delta and made prisoner. No other aircraft being available, a pause in aerial activity ensued until the beginning of February, 1915, when Flight-Lieutenant Cull, R.N.A.S. arrived with two Sopwith machines. These proved unsatisfactory and on the 20th April two Short sea-planes, from England, reached Mafia. These too proved unsatisfactory but a number of flights over the Delta were undertaken, during one of which Flight-Lieutenant Watkins was shot down and his machine lost, although he himself was rescued unharmed by Flight-Lieutenant Cull, who landed his sea-plane on the water with great skill. On the 18th June, 1915 two Caudron machines and two Henry Farmans arrived and these promised greater reliability and in the event proved themselves capable of carrying out the task required of them.

It was decided that the monitors should proceed up the Kikunya arm of the Delta to a position east of Kikunya Island, where the *Koenigsberg* would be well within range of their guns, which would be directed by aircraft.

At dawn on the 7th July, 1915 the monitors entered the river and, proceeding to their positions, anchored fore and aft and opened fire on the German ship. With the aid of Flight-Lieutenant Cull and his observer, Lieutenant Arnold, they very soon commenced to register hits on the target. The *Koenigsberg* replied and it immediately became obvious that she was receiving aid from spotting stations hidden in the mangroves for shells began to fall dangerously close to the Monitors and near misses caused some damage and casualties.

The monitors then shifted position closed to the bank of the River, where they were invisible to the German observers, and re-opened fire. Accurate shooting re-commenced very quickly and was maintained until the aircraft ran short of petrol and was forced to return to base. She was

to have been relieved by one of the Caudrons but considerable difficulty was experienced in persuading the machine to take the air and when it did arrive over the target its shortcomings made accurate spotting difficult; moreover with two different sets of corrections for the two ships some confusion arose and shooting became less accurate. Tidal conditions were changing and it became advisable to break off the action and at about 3 p.m. the monitors returned down stream and went back to Mafia.

Next day aircraft were sent over to observe the effect of the shooting and reported that, while the *Koenigsberg* had been severely damaged, she had not been destroyed.

On the 11th July, 1915 the monitors again ascended the river but on this occasion not until mid-day, for tidal conditions had of course changed. Assisted by an improved system of spotting and correction by the aircraft an accurate and devastating fire was opened on the *Koenigsberg.* Fire became more and more accurate until every shot was signalled a hit and until the aircraft was shot down and forced to make a landing in the river, from which Flight-Lieutenant Cull and Lieutenant Arnold were rescued by the *Mersey's* motor-boat. Lieutenant Arnold had continued to signal corrections until the machine struck the water and one of his last signals enabled the monitors' guns to be trained left so that shots began to register in the amidships sections of the target.

After a short delay Lieutenant Watkins, with Lieutenant Bishop as his observer, arrived in one of the Caudrons. Accurate fire was resumed and the guns of the *Koenigsberg* silenced, their crews having been killed. It was the end, and Captain Loof decided to abandon ship, but before doing so he exploded a torpedo in her bottom compartments, breaking her back. Two violent explosions took place and Lieutenant Bishop was able to signal "Target destroyed" and at 3 p.m. the monitors ceased fire and returned down stream. It is to be noted that whereas the action on the 7th July lasted almost nine hours the final action, on the 12th July, occupied no more than two and a half hours. A very detailed account of both actions and the events leading up to them is to be found in Mr. Keble Chatterton's "Severn's Saga" and is of great interest, for this was probably one of the earliest instances of an aircraft being used to observe and correct the gun-fire of warships directed at a target invisible to the gun-layers.

Captain Loof was severely wounded and subsequently received the award of the Iron Cross 1st Class in recognition of his services. On recovering from his wounds he took command of German Land Forces in the Lindi area and was later captured by the British on the borders of Portuguese East Africa. In after years he became Vice-Admiral and his book, describing his experiences and entitled "Kreuzerfahrt mit S.M.S. Koenigsberg" was published in Berlin in 1929.

By 1930 Captain Fullerton had become Admiral and Commander-in-Chief, East India Station. On the 30th July of that year he visited the Rufiji and took opportunity to inspect the remains of the *Koenigsberg* which the monitors under his command had destroyed almost exactly 15 years earlier.

But this was not the end of the *Koenigsberg,* for her ten 4.1-inch guns were salved, mounted on field carriages and dragged to Dar es Salaam, where five were mounted for the defence of the town, two were sent to Tanga, two to Kigoma and one to Mwanza. Brigadier J.H.V. Crowe, C.B., in his book "Smuts campaign in East Africa," records that, of the ten, one was captured at Kahe and one at Bagamoyo, which were probably those sent to Tanga. One was captured at Mwanza, one each at Kigoma and Kahama, while a further two were captured in the Uluguru Mountains and another at Mohoro. One other was captured at Mahiwa in the Lukuledi valley in 1916 and the tenth fell into the hands of a Belgian column under the command of Lt.-Col. Huyghe at Itaga just north of Tabora.*

It is not difficult to imagine the organisation and toil which went into the moving of these guns to points so far from the Rufiji and there is some truth in the comment of General von Lettow Vorbeck, quoted earlier, that "what appears to be impossible can be achieved by effort sustained by determination." The credit for the achievement goes largely to Lieutenant Commander Schonfeld, a retired Naval Officer, who was farming in the Arusha District when war broke out. He it was who organised the Delta defences, salved the guns and arranged their transport to Dar es Salaam.

It has sometimes been said that the *Koenigsberg* displayed little enterprise in her role as commerce raider but, as has been seen, Captain Loof was hampered by lack of fuel and by the probably over-hasty blocking of the entrance to Dar es Salaam, which deprived him of a base. In these circumstances he could not do much but it is well to remember that by retreating into the Rufiji River he involved the British in a blockade, which as can be seen in the Appendix to this account, necessitated the employment of many ships and in the expensive and somewhat hazardous business of bringing the monitors out from England. It has been estimated that in the final actions, on the 7th and 11th July, 1915, 1,000 shells and 3,000 rounds of small arm ammunition were expended on the Delta defences and on the *Koenigsberg,* which was hit by between 70 and 80 lyddite shells: probably far more than would have been required to sink her in a fight at sea.

No such criticism however, can be levelled at the Captains of the supply-ships or at Lieutenant Commander Schonfeld. Without the supplies and without the guns salved from the *Koenigsberg* it seems unlikely that General von Lettow Vorbeck could have succeeded in prolonging the campaign and taking it into Portuguese East Africa and Northern Rhodesia, where his final surrender took place some days after the armistice had been signed in Europe.

It will be remembered that amongst the ships in Dar es Salaam which were disabled by the party from H.M.S. *Goliath* on the 28th November, 1914 there was the small steamer *Kaiser Wilhelm II.* Little is known about her save that she was the property of the German East Africa Government and was sometimes referred to as "the Governor's Yacht". After the British occupation of Dar es Salaam she was used as a landing

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* See Military Operations in East Africa, Vol. I, p.454.

stage alongside which small coasters could go at any state of the tide. She was later repaired by the Tanganyika Government, re-named *Lord Milner* and employed under the management of the Marine Department until, in 1931, she became unseaworthy and was taken out to the Daphne Reef, just north of Dar es Salaam, and scuttled.

It seems appropriate to mention that the *Wami,* which it will be remembered escaped from the Rufiji and was sent to Lake Tanganyika, had a sister ship in the *Kinyani.* This little vessel was similar to the *Wami,* being of about 50 tons. She was employed in Dar es Salaam at the outbreak of war and was put on the Rail and sent to Kigoma where, armed with four pom-poms, she co-operated with the *Hedwig von Wissman* in operations off the Belgian shore of the Lake. In one of these ventures she encountered the fast British motor-launches *Mimi* and *Toutou* and after sustaining heavy casualties surrendered. She was taken to Kalemie where she was repaired and re-named *Fifi.* After the war she came into the hands of the Tanganyika Government and was used by the Marine Department. For many years she maintained a cargo and passenger service between Kigoma and the ports at the southern end of the lake until she became unseaworthy and was scuttled off Kigoma.

For details of the Naval actions mentioned and for much other information, without which it would have been difficult to piece together the story of these wrecks, the writer gratefully acknowledges his debt to the books and articles refered to in the opening paragraphs of the narrative. For information concerning the *Lord Milner* acknowledgements are due to the Harbour Master of Dar es Salaam.

The following works of reference were consulted: "Jane's Fighting Ships", 1939 Edition, Oscar Parke's "Ships of the Royal Navy", 1923 Edition, and Lloyd's Register of Shipping.

APPENDIX I

British Naval craft employed in East African waters 1914 to 1918

Battleships :

Vengeance. No details available other than that she was armed with four 12-inch guns and others of smaller calibre.

Goliath. Completed in 1898. 12,950 tons armed with four 12-inch guns and 6-inch guns on the lower decks. Speed on completion about 19 knots but by 1914 she was in poor shape and her speed greatly reduced. She was torpedoed and sunk in the Dardanelles later in the war.

Cruisers :

Chatham, Weymouth and *Dartmouth.* Modern ships of 5,000 tons, 457 feet in length, draught 17¾ feet armed with eight modern 6-inch guns and smaller armament. Speed 26 knots. Coal and oil fired.

Astrea about 4,360 tons, draught 20 feet, speed rather less than 20 knots. Completed in 1894. Two 6-inch guns and eight of 4.7 inches.

Hyacinth. 5,600 tons, maximum speed 21 knots. Completed 1901. Eleven 6-inch guns and eight of 3-inch.

Challenger. 5,195 tons, draught 21 feet. Other details not available.

Talbot and *Fox* described as "light cruisers". No details available.

Pegasus, Pioneer and *Pyramus.* Completed about 1898. 2,135 tons, draught 20 feet, speed 20 knots. Eight 4-inch guns and smaller armament.

Armed Merchantmen :

Kinfauns Castle, Laconia, Laurentic, Trent and *Himalaya.* These were large passenger liners armed with 6-inch guns with a draught exceeding 30 feet.

Balloon Ship :

Manica. No details available.

Monitors :

Severn and *Mersey.* Completed 1914, 1,260 tons, length 265 feet, draught 6½ feet. Two 6-inch guns and two 4.7-in howitzers.

Armed Whalers :

Pickle and *Fly, Charon* and *Styx, Salamander* and *Rattler, Echo* and *Childers.* Speed about 10 knots, draught 12 feet, armed with one 12-pounder and smaller guns.

Armed Tugs :

Helmuth and *Adjutant.* Armed with 3-pounders. These were German tugs captured in Zanzibar and off the coast of Mozambique.

Gun-Boats :

Thistle. 710 tons, 4-inch guns, other details not available. Came from the China station.

Sloops :

Rinaldo. 9880 tons, four 4-inch guns. Other details not available. She took part in operations off the Belgian coast in company with the monitors.

Unarmed Tugs :

Black-cock, Revenger, T. A. Jolliffe and *Sarah Jolliffe.* These were employed to tow the monitors from England.

Miscellaneous :

Ex-cable ship *Duplex.* 874 tons, draught 17 feet armed with two 3-pounder guns. It had been intended to arm her with a 6-inch gun from the *Goliath* but her decks were inadequate.

With the possible exception of the *Vengeance, Himalaya, Rinaldo* and *Manica* all these ships were employed in tracking down, blockading and destroying the *Koenigsberg.*

Koenigsberg. Completed in 1907. 3,350 tons, length 359 feet, draught 17½ feet. Coal fired; speed 25 knots. Armed with ten 4.7 guns and eight 2.1-inch guns.

APPENDIX II

Chronological Table of Events described in narrative.

1914

31st July	*Koenigsberg* coaled in Dar es Salaam and put to sea, accompanied by the *Somali*.
3rd August	*Tabora* left Mombasa for Dar es Salaam.
4th August	War declared. *Praesident* put to sea.
6th August	*Koenigsberg* captured *City of Winchester*.
8th August	H.M.S. *Astrea* and *Pegasus* visited Dar es Salaam and shelled the wireless station. *City of Winchester* sunk.
10th August (approx.)	Dry dock sunk in the entrance to Dar es Salaam harbour.
21st August	*Koenigsberg* coaled from *Somali* at Ras Hafun.
2nd September	*Koenigsberg* coaled from *Somali* at Aldabra.
3rd September	*Koenigsberg* entered Rufiji and anchored off Salale.
4th September	*Somali* entered Rufiji and anchored in the Suninga arm of the Delta.
20th September	*Koenigsberg* destroyed H.M.S. *Pegasus* in Zanzibar.
21st September	*Koenigsberg* returned to Salale.
23rd September	H.M.S. *Chatham* arrived in East African waters, to be followed during the week by *Dartmouth* and *Weymouth*.
30th September	*Chatham* visited Kome and found the diary.
18th October	*Chatham* visited Lindi and disabled the *Praesident*.
20th October	*Chatham* visited Dar es Salaam and inspected the ships in harbour.
29th October	*Chatham* landed party at Kiomboni and took off the three villagers.
7th November	*Newbridge* sunk in Suninga arm of Rufiji delta. *Somali* shelled and sunk.
16th November	Lieutenant Cutler with Curtiss hydroplane arrived at Mafia.
19th November	Lieutenant Cutler made his first flight over the Delta.
28th November	H.M.S. *Goliath* and *Fox* visited Dar es Salaam and disabled the ships in harbour.
? December	Dry dock sunk in entrance to Dar es Salaam.
10th December	Lieutenant Cutler shot down and made prisoner.

1915

15th February	Flight-Lieutenant Cull arrived with the Sopwiths.
14th March	*Severn* and *Mersey* left Devonport.
14th April	*Kronborg* sunk in Manza Bay.
20th April	Short sea-planes arrive at Mafia.
3rd June	Monitors arrive at Mafia.
18th June	Henry Farman and Caudron aircraft arrived Mafia.
7th July	Monitors made first attack on *Koenigsberg*.
11th July	Monitors destroyed *Koenigsberg*.
19th August	*Markgraf* sunk in Tanga harbour.
26th December	*Kingani* captured on Lake Tanganyika.

1916

? March	*Marie* arrived in Sudi Bay.

German East African Ports occupied :

Tanga, 7th July; Pangani, 23rd July; Sadani, 2nd August; Bagamoyo, 15th August; Dar es Salaam, 4th September; Kilwa, 7th September; Lindi, Sudi and Mikindani, 14th September, 1916.

THE WADEBULI AND THE WADIBA

By Sir John Gray

In his description of the ancient ruins on the island of Mafia (written in 1896) Oscar Baumann says :

> "If a person is questioned as to who were the builders of these old places, he names the Wadebuli, without being able to give any information as to the time of the arrival of this race. Likewise in Zanzibar and in several coast towns I was told of these legendary people known as the Wadebuli, Debuli and Debri. Not only old Shirazi buildings and wells, but in addition ruins, which from inquiries made by us we know to be of recent date, were without exception attributed to the Wadebuli. Up to now I have been able to learn nothing as to the date of the arrival of this tribe. It is always explained that nominally they were a Muslim people. A very well read Mwalim (teacher) in Chole declared that their architecture resembled that of Diu and Deman. The Wadebuli had nothing to do with the Portuguese, who are universally known as the Wareno (from Reino the Portuguese word for kingdom)". (1)

Writing of the Wahadimu of Zanzibar, Archdeacon Godfrey Dale says :

> "There is a curious legend rife amongst them by which they account for their subjection to the Arabs. There arrived off the coast of the island people whom they called the Wadebuli. No one has been able to discover exactly who they were. I have heard them spoken about constantly. . . . They are said to have come in sailing vessels and to have possessed cannon. I have also heard it said that their sails were not made of canvas or cloth but of some kind of palm leaf. Were they from the Malay Peninsula? They had towns on the coast, planted coconuts and dug wells. They also built places of worship. The ruins of those places of worship are found all over the islands of Zanzibar and Pemba. These ruins seem to have been of Persian origin and to be Mohammedan mosques of a kind. Some of these ruins may be of various dates. Those I saw in Pemba have sunk so deep in the ground that they must be very ancient. . . . They have never been forgotten. They treated the Wahadimu most cruelly, using men as beasts of burden. At last the Wahadimu could bear it no longer. The Mwenyi Mkuu (sc. the hereditary ruler of the Wahadimu) appealed to the Arabs of Muscat. They arrived, drove out the oppressors and elected to stay as rulers. I have been told this again and again and am convinced that it rests upon a foundation of fact. The Wahadimu have never forgotten the Wadebuli." (2)

In his "Land Tenure amongst the Wahadimu" p.17, R. H. W. Pakenham tells us that in Zanzibar legend has it that the Wadebuli never remained long in any one place.

Ingrams has suggested that the Wadebuli "are probably the same people as the Wadiba of Pemba tradition," who would appear to have made a somewhat fleeting occupation of that island and to have enjoyed much the same reputation as the Wadebuli in Zanzibar. (3)

When Burton visited Kilwa Kisiwani in 1857, he was informed that Songo Mnara was originally "occupied by the Wadubuki, a Muslim clan. These were succeeded by the Nabhani or Ghafiri Arabs," who eventually became the rulers of Pate. (4) It has been suggested that these Wadubuki were the same people as the Wadebuli.

There is in existence a *Shajaare,* or genealogical record, relating to Mkwaja, Pangani, which, according to H. C. Baxter, contains "the first historical fact recorded in any *Shajaare,*" to wit, "the invasion of the Wadebuli." This event is said to have taken place in the seventh century of the Christian era. Local traditions would appear to show that the Wadebuli attacked or raided a forty mile stretch of the coast between the mouth of the Pangani River and Saadani. Baxter tells us that "the graves of the Wadebuli are scattered all over the Pangani District" and that there is in particular a substantial graveyard at Ushongo, near the mouth of the Pangani River, giving evidence that the invaders "stayed in the neighbourhood for at least a couple of centuries." Baxter further tells us that the Mkwaja *Shajaare* contains the statement: "This man was born in the Wadebuli wars," but he does not give us the context in which this statement appears. He also tells us that the Wadebuli arrived before the conversion of the East African coast to Islam. (5)

Very clearly the Mafia and Zanzibar traditions cannot be reconciled with that of the Mkwaja *Shajaare.* A race, which, according to Baumann and Dale, professed Islam and which, according to the latter, also knew the use of firearms very clearly arrived in East Africa many centuries after the seventh century of the Christian era. If therefore the Mkwaja *Shajaare* has correctly dated the Wadebuli wars on the mainland, I feel driven to much the same conclusion as the noble lord, who, after listening to a learned dissertation as to the authorship of the *Iliad* and *Odyssey,* expressed the opinion that, "if those books were not written by Homer, they must have been written by some other fellow of the same name." If people known to tradition as the Wadebuli settled in East Africa in pre-Islamic times, other people known to tradition by the same name, who were Muslims and who brought firearms to East Africa, arrived several centuries later, but these later people were not necessarily of the same race as their predecessors and namesakes.

The alternative solution of the problem is one which I am very reluctant to make without a better knowledge not only of the *Shajaare,* but also of the archaeology of Pangani District. That conclusion is that the *Shajaare* must be treated as completely unreliable as regards dates. In this connection I would add that I share with Baumann the view that the ascription by present day inhabitants of certain ruins and wells to the Wadebuli is very far from being always reliable.

If the Wadebuli of the Pangani regions belong to an earlier race of immigrants than the Wadebuli of Zanzibar and other places to the south of that island, I can only guess as to their country of origin and my guess is just as good as that of anybody else. But I feel that I am in a better position to put forward theories as to the country of origin of those Wadebuli who according to tradition reached East Africa at a much later date,

I will set out in the first place those localities where the present day inhabitants attribute local ruins to the Wadebuli, but in so doing I must not be taken to hold (1) that the Wadebuli of the seventh century (assuming that date to be correct) are the same people as the later Wadebuli, or (2) that the attribution of such ruins to the Wadebuli is always correct.

The list of ruins is as follows :—

A. Pangani and Bagamoyo Districts (5)
   (1) Ushongo (near mouth of Pangani River)
   (2) Mitondooni (near Kipumbwe)
   (3) Uzimia (former site of Mkwaja, Pangani)
   (4) Sadaani

B. Zanzibar (6)
   (1) Chwaka
   (2) Paje
   (3) Makunduchi
   (4) Unguja Kuu
   (5) Magogoni
   (6) Pwani Mchangani
   (7) Kizimkazi
   (8) Pwani Wadeburi
   (9) Mnemba Island (off N.E. coast)

C. Mafia Archipelago (7)
   (1) Miskitini (Mafia Island)
   (2) Ras Kisimani (Mafia Island)
   (3) Koma Island
   (4) Kwale Island

D. Southern coast of Tanganyika (8)
   (1) Songo Mnara
   (2) Kilwa Kivinji
   (3) Between Mzungu and Kyemsati

Various suggestions have been made as to the country of origin of the Wadebuli. Archdeacon Dale inclined to the opinion that "these Wadebuli must have been Persian buccaneers: or that the word may have been a corruption of Madebui, just wild Arabs." (9) *Bedui* (meaning "nomad") is of course the Swahili version of the word which is generally anglicised as Bedouin.

Franz Stuhlmann suggests that the word is derived from the Arabic word *dabur* or *dabir,* which is employed in Yemen as meaning "western", and that the Persians or Muscat Arabs used the term regarding those of their compatriots who came from south-west Arabia. (10) Against this theory it must, however, be pointed out that the word usually employed in Kiswahili for "west" is *magaribi,* which is a Bantu transliteration of the word *magharib,* meaning "the place where the sun sets." Furthermore, Arab immigrants from south west Arabia are commonly known by the names of their countries of origin. Thus, the people of Sheher are commonly known as Washihiri.

It would therefore appear to be much more probable that in the case of the Wadebuli the Bantu prefix Wa- is placed in front of the name of some definite place or locality.

It would appear that only one local tradition has ever attempted to give the original habitat of the Wadebuli. It is recorded by T. M. Revington in "Some Notes on the Mafia Island Group" (11). This tradition avers that "the town of Ras Kisimani (in the extreme north-east corner of Mafia) was built by the Wadeburi who came from the south and are the same people as the Wasakalava of Madagascar." But, as Revington points out, other details in the story regarding the former inhabitants of the submerged town at Ras Kisimani show that there is a confusion in the minds of the narrators between events which happened within the last century and those which happened many centuries before. The allegation that the Sakalava were the builders of the town would appear to be clearly wrong, as the members of that tribe have never been credited with having in the past been builders of stone buildings. Furthermore, assuming that the Wadebri and the Wadebuli were people of one and the same race, it may be equally unsafe to attribute to them the founding of this town without further and better evidence tending to show that this hypothesis is correct.

Ingrams has suggested that the name Wadebuli may have originated from one or other of three Indian place names, to wit, "if not Diu, then what Barbosa called the Kingdom of Diul, or possibly the modern Dabhol." (12)

Of these Diu is the name of an island and town at the southern extremity of the peninsula of Kathiawar. The Portuguese obtained it in 1535 by a treaty of cession from the Shah Bahadur of Gujarat and it has remained Portuguese until this day. Barros tells us that the town of Diu was rebuilt by a ruler of Gujarat only a very short time before the first advent of the Portuguese. "It was then only a fisher village, but in ancient days there had been a city there, of which but few ruins remained with some inscriptions in the most ancient Gujarat tongue." (13) When Francisco D'Almeida arrived before the town in 1509, the place had recovered much of its former importance. Writing in about 1515 Duarte Barbosa said: "It is on a small island hard by the main, and has a right good harbour, (and is) a trading port used by many ships, with exceeding great traffic and commerce." Ships sailed thence to many places including Mogadishu, Malindi, Barawa and Mombasa. The governor of the place was reported as possessing "a very strong artillery. . . . He has built a boom across the harbour, furnished with heavy artillery and many gunners always present." (14) In this connection, it may be recalled that tradition alleges that the Wadebuli possessed artillery. But the fact that shortly before the end of the fifteenth century Diu had been a mere fishing village hardly suggests that its inhabitants were at that date sufficiently numerous to set out to colonise parts of East Africa.

To turn next to Barbosa's "Kingdom of Diul", the place to which he refers is Deval in Sindh. In his time it was a seaport, but nowadays the advance of the coast, owing to the silt deposits of the delta of the Indus, has left its ruins some twenty miles inland. This port was known to the Arabs as Daybul. Writing in the thirteenth century, Ibn Said (fl. 1208-1286) describes it as the largest port in Sindh (15). Barbosa does not give any particulars as to its trade, but it can hardly be doubted that, in common with other ports on the shores of the Arabian Sea and the

Persian Gulf, it participated in the trade with East Africa. Nevertheless, except for the name of the place, there is no evidence tending to show that any of its inhabitants were the Wadebuli of East African tradition.

We turn next to Ingrams' third suggestion, the port of Dabhol, situated on the east coast of India about one hundred miles south of Bombay. Once again, the name strongly suggests that this was the original home of the Wadebuli. There is also other evidence which lends corroboration to such a theory.

When at the beginning of the sixteenth century the Portuguese first reached Kilwa, they made the acquaintance of a person whom Barros and other Portuguese chroniclers call "Mohammed Anconi." As those chroniclers show, this worthy was destined to play the role of a quisling when Francisco D'Almeida took the island by force of arms in 1505. "Anconi" is a corruption of the man's true name. The Arabic version of the Kilwa Chronicle gives his full name as Muhammad Ibn Rukn al-Din al-Dabuli (16). That version of the Chronicle also tells us that, until he fell from grace, he was regarded by the people of Kilwa as "a distinguished citizen" and "a merchant f great wealth and high character." (17). According to Barros, he was registrar of the treasury (*Escivao da fazenda*). (18)

"One swallow makes not a spring, nor one woodcock a winter." So also the presence of a single al-Dabuli a kilwa does not prove the presence of a colony from Dabhol or Daybul. By itself therefore the story of Kilwa's quisling does not carry us very far and we must seek for other evidence from other sources.

Before turning to the most important evidence of all, passing reference must be made to the Wadubuki, who, according to information given to Burton, were said to have occupied Songo Mnara, the island adjacent to Kilwa Kisiwa. Burton tells us that he was interviewed on the island of Kilwa by some twenty "Fungwi or peasants" and that "in view of the ruins they recounted to us their garbled legendary history. . . . Songo Mnara was occupied by the Wadubuki, a Moslem clan." (19) One at once begins to ask oneself whether Burton may not have miswritten the name. Did his informants speak of the Wadebuli?

The following extract from a Swahili history of Kilwa Kivinji, which was published by C. Velten in 1907, suggests that it is quite possible that Burton did fall into such an error :

"There were two tribes living here at Kilwa (sc. Kivinji) in the very old days. One tribe was the Wangarwe and the other the Wabuhura. They lived here at the very beginning. . . . Then there was nobody who knew the origin of these tribes or whence they came, but we have heard that the Wangarwe and the Wabuhura were the children of the Waduburi or else their slaves. There is nobody who knows whether it is true that they were their children or their slaves." (20)

The context rather suggests that Velten's informant may have been just guessing and not merely repeating an ancient tradition, but in any

event, whether guess or not, that informant was clearly aware of stories about a tribe called the Waduburi, which at one time had flourished in the regions of Kilwa.

The visit in 1950 of Dr. A. G. Mathew and Messrs. J. P. Moffett and J. Mitchell-Hedges to Kilwa Kisiwani has yielded an invaluable amount of archaeological information, which throws a good deal of new light on the island's history. Here, however, one can only set out very briefly the principal results of that expedition.

Dr. Mathew's personal examination of a number of sites on the east coast of Africa and on the adjacent mainland has shown that there were apparently two more or less consecutive Islamic cultures on the coast. Excluding the ruins on the island of Sanje ya Kate in Kilwa harbour, which possibly may be pre-Islamic, the earliest of these cultures would appear to have lasted from the ninth to the twelfth century of the Christian era. It is represented by ruins stretching from Italian Somaliland down to Sanje Majoma, just to the south of Kilwa. It includes the mosque at Kizimkazi on Zanzibar island, which has an inscription bearing the date 500 A.H. (1107 A.D.) and which, let it here be said, was almost certainly not built by the Wadebuli, notwithstanding any local tradition to the contrary.

This culture, as Dr. Mathew tells us, was followed by another which appears to have come into being in the thirteenth century of the Christian era and to have ended in the latter years of the sixteenth century after its economic basis had been undermined by the coming of the Portuguese some three generations earlier. Certain of the ruins at Kilwa Kisiwani and Songo Mnara provide examples of this culture. Other examples may be seen in the ruins at Tongoni, near Tanga, and at Mogadishu. Regarding this culture Dr. Mathew tells us that —

"In itself it forms a distinct variant among the medieval Islamic cultures. Nothing has been found to corroborate the tradition of Persian origin. Its closest links are with the Bahmani kingdom in India; there is the same use of rhymed couplets in the coinage, and there are architectural parallels. The original immigrants may have come from Southern Arabia, but the culture they created will most probably be studied in relation to that of Islamic India. It was on the trade contacts with Islamic India that the prosperity of their towns depended." (21)

The Bahmani kingdom, to which Dr. Mathew refers, came into being in the middle of the fourteenth century. Its founder was Abu'l-Mazaffar Ala-ud-Din who in 1347 carved out of the Mogul's dominions a kingdom for himself in the Deccan. He claimed descent from a half-mythical Persian hero of the name of Bahmani. He himself was commonly known as Bahmani Shah and the dynasty, which he founded, took the name of their ancestor. He made the city of Gulbarga (renamed Ahsanabad) his capital. Before his death in 1358 he had by conquest extended his dominions to the westward to Dabhol and Goa on the sea coast. (22)

Bahman Shah was succeeded by his eldest son Muhammad I, who reigned until 1377. His reign was characterised by almost incessant warfare against his Hindu neighbours. These campaigns are memorable

for the first mention in Indian history of the use of artillery. In 1366 Mohammad I is recorded as having taken the guns from his forts and turned them into elephant batteries manned by European and Ottoman Turkish artillerymen. In the circumstances it is not surprising to learn from Duarte Barbosa that, when the Portuguese first reached Dabhol, they found that "in the river (Vashishti) there is a fortress with artillery for its defence." (23)

The heyday of Bahmani prosperity would appear to have been the reigns of Firoz (1397-1422) and Ahmad Shah (1422-1435). The last named was the first ruler of Deccan to enlist foreign recruits in large numbers and thus to start the feuds between his own subjects and these foreigners, which eventually contributed very largely to the disruption of the Bahmani kingdom. We are told that during the reign of Ahmad Shah's son, Alla-ud-Din (1435-1458), the kingdom was shaken by the ever growing quarrels between the original inhabitants and the foreigners. To some extent the quarrels would appear to have been religious as well as racial. On the one side were ranged the Deccani and certain Abyssinian settlers, who were for the most part Sunnis. On the other were ranged various foreign elements including Arabs, Turks, Persians and Moguls who were for the most part Shias. Ala-ud-Din was succeeded by his eldest son Humayun, who has been described as "one of the most bestial fiends who ever sat on a throne." After three years of the most appalling cruelty he was assassinated, the assassin being an African maidservant who stabbed him to death when he was helplessly drunk. (24)

Humayun's successors appear for the most part to have been little better than he was. Under their rule the Bahmani kingdom began gradually to disintegrate. In 1489 Yusuf Adil Shah revolted and carved out for himself and his family the kingdom of Bijapur, which included Dabhol. (25).

If we cross the Indian Ocean from east to west and look at contemporary Kilwa and other parts of East Africa, we find a number of resemblances to the culture of the Bahmani Deccan. The most important of these are —

(a) coinage,
(b) architecture, and
(c) the use of firearms.

As Dr. Mathew has pointed out, both the Deccani and the Kilwa coinage make use of rhyming couplets. So far no trace or record of any mint has been found either at Kilwa or at any other place in East Africa.

The earliest coinage in Kilwa is that of Hasan ibn Talut, who was Sultan c. 1285-1302, that is to say, more than half a century before the establishment of the Bahmani dynasty in Deccan. The Portuguese version of the Kilwa Chronicle tells us that he was "a most excellent horseman." (*mui excellente cavalleiro*). The Arabic version of the Chronicle gives further particulars :

"Thereafter the kingdom was transferred from them (sc. the first reigning dynasty) to the house of Abu'l-Mawahib. The one who took over

control from them was al-Hasan ibn Talut, who was renowned for mentality and fortitude. He seized the kingdom by force along with his people, but they were not equal t the government; so he became independent and seized the kingdom by violence." (26)

Though the Portuguese version of the Chronicle calls him the grandson of his predecessor, the Arabic version evidently regards him as the founder of a new dynasty. The references to his horsemanship and to "his people" rather appear to suggest that he was a foreigner. So does his introduction of a copper coinage. Despite the fact that Kilwa was a gold mart, gold was never regarded as anything but a merchantable article which could be bartered for other merchantable articles. The evidence therefore would appear to indicate that Hasan ibn Talut either came from or had once lived in a land which realised the advantage of coin over barter as a medium of exchange.

The minting of the Kilwa coinage began c. 1285 and ended c. 1493, that is to say, some seven years before the first Portuguese ships called at Kilwa. There are a number of *lacunae* in the period just mentioned, during which it would appear that certain Sultans of Kilwa coined no money. This of course does not mean that money went out of circulation or that there was a return to barter. No doubt coins minted by previous Sultans or else foreign coins were accepted as currency.

Most of the Kilwa coins have been found either on Kilwa Island or in its immediate neighbourhood. Other coins with rhyming couplets have been found on Mafia. As this island was for many years an appanage of Kilwa, it is not surprising to find that the majority of these were coined by Sultans of Kilwa. But a hundred or so of those found on Mafia bear the name of Daud ibn al-Hasan, who does not figure as a Sultan in the Kilwa Chronicles. He would appear, however, to have belonged to the same family as those Sultans and to have ruled Mafia in about the middle of the fifteenth century at a time when Sofala and other colonies began to secede from Kilwa. (27)

In addition certain coins of what may be termed the Kilwa type have been found in the Island of Zanzibar. Unfortunately the precise place of discovery of these last mentioned coins is not known. Like the Kilwa and Bahmani coins they have rhyming couplets. Some were minted by al-Husain ibn Ahmad and others by Ishak ibn Ahmad, who were apparently father and son. Neither of these names fits into the Kilwa genealogies as given in either the Portuguese or the Arabic version of the Kilwa Chronicle. It may perhaps be therefore assumed that the two were independent rulers in Zanzibar, who derived their coinage from the same source as did the rulers of Kilwa. Their coinage would appear to belong to the fifteenth century. (28)

Turning to architecture, it should first of all be stated that, like the Deccanis, the inhabitants of Kilwa were Sunnis. When Ibn Battuta visited Kilwa Kisiwani in 1332, he reported of its citizens that "their chief qualities are their piety and devoutness, and they profess the doctrine of (the Sunni Imam) Shafei." (29) One would therefore expect to find not only that the nationals of one country would meet with a friendly reception

in the other, but also that the pattern of their mosques would show a good many points of resemblance. The builder or builders of two of the mosques at Kilwa Kisiwani would appear to have taken as a pattern for their much smaller edifices that of the great mosque at Gulbarga in the Deccan, which was built by Muhammad I (1358-1377), the second of the Bahmani dynasty, and is of a type which has never been reproduced elsewhere in India. (30)

What was apparently the Jumaa or Friday mosque appears to have been built during the reign of Sultan Suleiman ibn Hasan (c. 1303-1316) and to have had a flat roof supported on wooden pillars. The Kilwa Chronicle tells us that this mosque fell into ruins and was restored by Sultan Suleiman ibn Muhammad (c. 1431-1452), once more with wooden pillars, which presumably supported a flat roof. At a later date this mosque was enlarged. Like the architect of Gulbarga, this later builder was clearly well acquainted with the pendentive. As at Gulbarga, the roof of the enlarged mosque is supported by stone columns, which are surmounted alternately by dome and plain vaulting. The roofing of another smaller mosque is of a similar character. Pottery and coins, which Dr. Mathew found in the precincts of these two mosques, point to the fact that both of them were erected during the reign of Sultan al-Hasan ibn Suleiman (c. 1482-1493), that is to say, at the close of the Bahmani period in the Deccan and just before the arrival of the Portuguese in East Africa. (31)

Mention has already been made of the facts that cannon were already in use in the Deccan at the close of the fourteenth century and that tradition says the Wadebuli likewise possessed the same weapon. When Cabral's fleet reached India in 1500, they took on board a Syro-Malabar Christian priest, named Joseph, and at his request took him with them to Portugal. On his arrival in that country he gave an account of the lands, peoples and customs of the Malabar coast. Amongst other things, he reported that "they have bombards, one kind of iron and another of wood, but they are not like ours (sc. those of the Portuguese) and are less powerful." On the strength of information given to him by another member of Cabral's expedition, Amerigo Vespucci, the eponym of two continents, informed Lorenco de Medici of Florence that "they have bombards, but they are not in the sailing ships." (32)

Despite the information supplied to Amerigo Vespucci there is evidence showing that cannon were transported from India to East Africa before the arrival of the Portuguese. In his account of Vasco da Gama's visit to Mombasa in 1498 Goes tells us that at the harbour's mouth there was "a tower with artillery (*huma torre com artelharia*), which was guarded by some people." In 1503, following in Cabral's wake, a certain Ruy Lourenco Ravasco cruised off Zanzibar for a period of about two months. During that time he seized more than twenty native vessels which were proceeding to the island laden with provisions. Eventually "the lord of the land" (*senhor da terra*) sent a message to Ravasco, asking "whether it was he who was cruising about and robbing the ships, which were coming to his city with provisions, and if that was so, he would pardon him for the injury which he had done to him provided that he gave back the artillery (*artilharia*) and things which he had taken. To which Ruy

Lourenço replied that he was the servant of the King of Portugal, sent in company with other ships, from which he had been separated by a storm; and because in all the ports of this district of that island he had found none of the things which are generally given to all people, namely, necessaries in exchange for money, but had been received with many bombards (*muita bombardada*) and arrows, in defence of his person and in punishment for what had been done to him, he had done what he had done to those who had offended against him." (33)

A portion of the sea shore at the north-west end of the island of Zanzibar, which faces the smaller island of Tumbatu, is known by the highly suggestive name of Pwani Wadeburi (the beach of the Wadebuli). Within a few yards of the shore at this spot there is a ruined building which appears to have been intended either as a blockhouse or else as a fortified farm house. An extraordinary feature of this building is the series of loopholes, which point inland and which pierce the thick walls of the building diagonally instead of at right angles.

When J. T. Last discovered this building in 1898, he was informed by the local inhabitants that "people called the Madeburi occupied the place, but they have no idea as to who the Madeburi were." (34) The loopholes are very narrow slits and hardly appear to be adapted for use by musketeers armed with small arms of a fifteenth or sixteenth century type. Still less are they suited to archers. It is therefore not easy to say what their purpose was, but, whoever the builders may have been and whatever the purpose for which they built, it is perfectly clear that they were foreigners and profoundly mistrusted the islanders.

The same mistrust of the inhabitants of Zanzibar was evidently shared by those who built a stone-lined well on the islet of Mnemba, which lies some two miles off the north-east shore of Zanzibar. Professor Voeltzkow, who visited the islet in 1903, was told that this well was the work of the Wadebuli. (35) J. T. Last, who first discovered the well five years earlier, was apparently not given any account as to its origin. He conjectured that it was "quite likely the work of freebooters who used to frequent these parts 100 or 200 years ago." (36) As the Wadebuli are also credited with having built a number of stone wells on the island of Zanzibar the tradition mentioned by Voeltzkow cannot be entirely ruled out. At the same time, as at least one Portuguese chart of the eighteenth century marks an anchorage on the west side of the islet, it is just possible that the constructors of the well were Portuguese. If it had been built by the pirates, who during the late seventeenth and early eighteenth century made use of Madagascar as a base for their operations, one would rather have expected that the literature dealing with that fraternity would have made some reference to the fact. It is hardly likely that it is the work of local fishermen, who to this day make periodical use of the islet for periods of one or two weeks at a time for the purpose of drying fish. Whoever the originator of the work was, he must have belonged to a fairly civilised race and have had some power of organisation.

To sum up briefly the evidence in support of the case for holding that the Wadebuli hailed from Deccan, the country served by the port of Dabhol, it is as follows —

(1) There is the resemblance of the names.

(2) The Bahmani rulers of the Deccan, like the rulers of Kilwa and other places in East Africa, were Sunni Muslims.

(3) At the beginning of the sixteenth century one person, if not more than one, who bore the generic cognomen of al-Dabuli was living at Kilwa. That person was, moreover, holding a position of some consequence.

(4) The Abyssinian settlers, who were in the Deccan in the fifteenth century, and the African slave girl, who was a prototype of Charlotte Corday, point to the existence of a regular communication between East Africa and the Deccan.

(5) The rhyming couplets on the coins of Kilwa, Mafia and Zanzibar recall the coinage of the Bahmani rulers of the Deccan.

(6) There are a number of resemblances between certain buildings in East Africa and those of the Bahmani dynasty in the Deccan.

(7) The Wadebuli are credited with a knowledge of the use of cannon. The Bahmani are the first persons recorded as having used cannon in India.

It is very difficult to form any estimate as to the extent to which these Wadebuli immigrants settled in East Africa, but it would appear clear that there were two types of immigration. In the first place most traditions show that the local inhabitants remember them chiefly as enemies given to slave raiding and slave driving. The loopholed building on the Island of Zanzibar suggests that this feeling of hostility and mistrust was perfectly mutual. If the tradition of "the wars of the Wadebuli" on the mainland opposite to Zanzibar should properly be assigned to some period between the thirteenth and fifteenth centuries, there is added confirmation of the view that the Wadebuli were as often as not piratically inclined. But at the same time the story of Muhammad ibn Rukn al-Din al-Dabuli goes to show that we must also picture to ourselves another and more peaceful kind of immigration. Here we have the Muslim Indian merchant coming in search principally of gold and ivory to a long established settlement, which was peopled and governed by a race of half-Asian half-African origin, which for want of a better name is commonly called Shirazi. Either this merchant brought his family with him or else he married one or more of the daughters of the leading local families. If, like Muhammad ibn Rukn, he was a man of some ability, he would as often as not find his way into the councils of state and would also have responsible official posts bestowed upon him. The pattern is a common one in oriental history. For a variety of reasons, whether right or wrong, a ruler lacked confidence in the ability of trustworthiness of his own people and accordingly called in an alien to fill an office of trust. The employment by Said bin Sultan and his two immediate successors on the throne of Zanzibar of Banyans as their customs officers throughout their East African dominions may be cited as one conspicuous example. Such a person was Muhammad ibn Rukn. History shows that he was a consummate intriguer and that in the end he proved a traitor to his masters, but his arrival in Kilwa, or the arrival of his forebears, must have been peaceful in character. Perhaps this picture can only be painted in Kilwa for the simple reason that piracy and the use of force very clearly would not cary a foreigner very far in a long-established firmly established sultanate.

The equally well established sultanates at such places as Mombasa and Malindi would appear to have known nothing of the Wadebuli. Like many another seafaring race in past history, the Wadebuli were shrewd enough to know that in the interests of trade the role of peaceful merchants was sometimes the best one to assume, but beyond the realms of stabilised and well ordered government the undisguised role of pirate and slaver as often as not brought in the best and the quickest returns. The use of that much dreaded secret weapon, the firearm, no doubt helped to swell those returns and to bring them in more quickly.

It is also virtually impossible to estimate the period over which these waves of Wadebuli immigration extended. Except for the stories relating to the Mrima, or mainland opposite to Zanzibar, tradition suggests that the period was relatively brief and that none of the waves was on any large scale. None of the present inhabitants claim descent from the Wadebuli. It would therefore appear that, when they left, or were expelled from the land, they left more or less *en bloc* and that such of them as remained behind married with and became absorbed into the local tribes. The sole reason for the survival of any traditions regarding them is because of the superiority of their culture over that of the races amongst whom they settled.

So far I have not dealt with the Wadiba. As already mentioned, Ingrams has tentatively identified them with the Wadebuli. The resemblance between the two names does undoubtedly suggest that one is a diminutive of the other. I think, moreover, that this resemblance has led to confusion in the minds of those who have narrated traditions regarding both Wadebuli and Wadiba.

There are a number of conflicting traditions regarding the Wadiba in Pemba. According to some they preceded the Washirazi; according to others they came much later. Several say they came from India. One of these says : "They made a town at Mkumbuu. In India, as here (at Pemba), are coconuts, mangoes, pineapples and durians. They lived here and they owned Pate and Mombasa, but their Sultan lived at Mkumbuu; his liwali lived at Pujini. The Portuguese came and turned them out, and stayed here." (37)

Other traditions have a great deal to say about a ruler, who was nicknamed the Mkame Mdume, meaning "he who draws milk from men." His real name is sometimes given as Muhammad bin Abdulrahman. He earned his nickname because he used to squeeze the uttermost ounce of strength, property or whatever else he could out of his unfortunate subjects. There is a conflict of opinion as to his country of origin. A number of traditions describe him as an Mshirazi. Others call him a Persian (Ajemi), an Msegeju or an Mmvita (man from Mombasa). One at least alleges that he was an Mdiba. (38)

Tradition credits the Mkame Mdume with having wielded sovereignty on the mainland as far as Mombasa, and even further to the north, as well as over Zanzibar and the Comoro Islands, but such claims are of course exceedingly far fetched.

He is said to have found in Pemba a tribe called the Magenge, who

are credited with having built a number of mosques on the island. Like the Titans of Hesiod's *Theogony* and the sons of Anak of the Old Testament, these Magenge are alleged to have been giants, who were ultimately vanquished by the Mkame Mdume. (39)

Some say he brought Islam to Pemba, though others say the islanders had been converted before he arrived. All traditions agree that he was a great stickler for the forms and ceremonies of religious worship. (40)

It is unanimously agreed that the Mkame Mdume built and lived in the fortress at Pujini on the east coast of Pemba. It is said that he obtained the stone for building it from a spot about twenty-five miles away at the northern end of Pemba and that he inflicted the most sadistic cruelties on the porters who had to carry the stones to Pujini. He is also said to have built a number of other towns in Pemba, including one at Chwaka at the northern end of the island. (41)

Besides being a great builder of mosques and towns, the Mkame Mdume is said to have been proficient in the construction of *mitepe* (sewn vessels) as well as other forms of carpentry and shooting with the bow. But he is chiefly remembered for his insatiable cruelty. (42)

There are conflicting traditions regarding his end. Some say he was killed by the Portuguese. Others say he died a natural death, but allege that his place of burial has been kept secret. (43)

The Mkame Mdume is said to have had two sons and one daughter. The younger son is said to have been called Haruni. He lived at Chwaka, where his wife is said to have built the now ruined Miskiti cha Chiroko (mosque of the pea). Tradition alleges that this son had the same cruel trait as his father, which earned him the nickname of Mvunja Pau (the breaker of rods). His grave is still pointed out at Chwaka. (44)

Examination of the many conflicting stories regarding their race and origin suggests that the Mkame Mdume, Mvunja Pau and other members of the family are in reality not so much individuals as personifications of successive waves of invaders belonging to several different races. Archaeological evidence goes to show that the first comers may have arrived as early as the tenth century. They were followed by other waves of immigrants who continued to arrive right up to the time of Portuguese and even later. At least one, if not more than one, such wave consisted of the Wadiba, who appear to have settled in Pemba only a very short time before the first arrival of the Portuguese. Whatever their races or tribes, most of these waves consisted of conquerors, who are mainly remembered at the present time for their acts of oppression. The sum total of their evil deeds has not lost in the constant repetition thereof. They have all been gathered together and placed by tradition upon the heads of the Mkame Mdume and his children.

It is said that the Mkame Mdume surrounded the town which he built at Chwaka with a wall. Apparent traces of this wall are pointed out at the present day. Within the circuit of the two walls are two mosques. One of these the Jum[illegible] mosque is dated by Kirkman as belonging to the

second half of the fifteenth century. The smaller mosque, known as the Miskiti cha Chiroko, must, according to the same authority, be ascribed to eighteenth century. It cannot therefore have been built by the wife of the man who lies buried in the much earlier Haruni's tomb. As Kirkman tells us Haruni's tomb is a late example of a pillared tomb of a type found all along the coast of East Africa. On the east wall inside the tomb, on the left of the entrance, are carved sun-flowers and a bow shaped object, which may be a horn and an emblem of sovereignty. A similar object is raised in relief on the inside of a stepped well in the fortress at Pujini. Kirkman is of the opinion that Haruni's tomb is of the same era as Pujini and therefore dates back to the sixteenth century. (45)

Pujini, which, as already said, tradition likewise ascribes to the Mkame Mdume, is a fortified settlement at the head of a winding creek on the east coast of Pemba. As Pearce points out, the ruins are of cruder workmanship and inferior material as compared with others in Pemba. It is surrounded by a trench and an earthen rampart, which is surmounted by a stone wall. Within the wall are a number of buildings including a central "keep" crowned with pinnacles. Excavations in the area of the citadel have yielded a certain amount of porcelain, which is now in the Zanzibar Museum and which belongs to the sixteeenth century. Each of the pinnacles is pierced by a loophole about six inches square. About thirty inches below the top of the parapet is a platform about thirty inches broad. It would therefore appear most improbable that the pinnacles were constructed as emplacements for cannon. Pearce has suggested that the loopholes were for use by defenders armed with matchlocks, but Ingram's theory that they were intended for men armed with crossbows seems more probable. Arrows were certainly used by the islanders when in 1509 men from a Portuguese ship landed and were attacked at a place in Pemba, which, like Pujini, is described as having been very rugged and sparsely wooded. There is also the tradition that the builder was a great archer. Furthermore the mechanism of the crossbow is still to be found in a local type of rat-trap, which is described and illustrated by Ingrams on pp.296, 297 of his book. The most significant thing, however, about these loopholes is that they point inland, and not out towards the sea. Very clearly, the builders of Pujini belonged to an alien race which mistrusted the islanders. (46)

As already said, one of many conflicting traditions says the Wadiba lived at Pujini and were driven out by the Portuguese. Another tradition calls the reputed builder of Pujini an Mdiba, and a third one says he was killed by the Portuguese. All three of these traditions would appear to have some measure of historical foundation.

Barros tells us that in 1510 Duarte de Lemos was sent to Zanzibar and Pemba to collect tribute. This is what he says regarding what transpired at Pemba :

"They came to the island of Pemba where also the Sheikh (*Xeque*) alleged the barrenness (of the island) for his not having provisions (for the fleet) ; but owing to the firmness of Duarte de Lemos he sold some (provisions) ; and, fearing the same punishment as (was meted out) at Zanzibar, he made some payment so as to get away from the island, passing

by night with a number of his people to the city of Mombasa. When our men came to his town (*povoacao*), they found everything had been cleared out, so that they could not even find a firebrand to set fire to the houses of the palace; and it was only by wandering through the island in search of cattle that they were able to find tracks and thus to reach some dwellings which were fortified in the manner of a fortress in a deserted village, where the Sheikh had collected his treasure because by reason of our party he was afraid to keep it in the vicinity of the sea. As it appeared that he had taken nothing with him except what he could carry, our soldiers and sailors found some property which paid them for the trouble of their journey." (47)

Here, tradition would appear to be borne out both by archaeology and contemporary history. The deserted village, which was thus fortified in the manner of a fortress, would appear almost certainly to have been Pujini. It is true that Barros would appear to suggest that the village was somewhere inland and away from the sea, but so far no remains have been found in the interior of the island which would answer Barros' description of this deserted village. Moreover, as Pujini stands some distance from the Indian Ocean at the head of a winding creek, the Portuguese landing party may well have failed to realise that they had crossed the island from west to east.

The flight of the Sheikh and his companions to Mombasa looks very much as if it were the final departure of the Wadiba overlords from Pemba and the pillaging of the fortified village looks very much like the beginning of the end, if not the final end, of Pujini. If to-day no man knows the sepulchre of the Mkame Mdume, perhaps it is because that sepulchre must be sought for at Mombasa.

If the Wadiba fled from Pemba to the mainland, the question still remains as to their country of origin. I have already stated that I believe the resemblance of their name to that of the Wadebuli is misleading and that the two represent two distinct and separate races. One of my principal reasons for so holding is because a number of medieval Arab geographers refer to the Laccadive and Maldive Islands as the Diba Islands. For example, Sams-ad-din Abu Abdullah Safi ad-Dimaski, writing in a treatise of about 1325, tells us that:

"The Diba form a coherent group, peopled by Arabs. The largest of them called Diba or Diyab, has a circumference of 400 miles (sic). There are to be found there the banana tree, sugar cane, the coconut tree, and the cassia tree. It is a place of call for ships going to Kis, Hormuz, India, Yemen, Mogadiso in the land of Zanj, and Abyssinia. (48)

Abdu'l Abbas an-Nuwayri, who died in 1332, tells us that "the islands of Diyab, of which the largest is called Diba, are inhabited by Arabs." (49)

The well known Arab traveller, Ibn Battuta, stayed for eighteen months in about 1342-1343 in the Maldive Islands, where he officiated as a Qadi. He again visited the islands for a shorter period a few years later. He has left behind a very detailed account of the islands, which he calls Dihbat al-Mahel, and also of their inhabitants. He tells us that the people were Muslims, "upright and pious, sound in belief and sincere in thought."

Amongst the principal exports from the islands Ibn Battuta mentions coconuts, coir and cowrie shells. He has this to tell us about the coir industry :

"It is the hairy integument of the coconut, which they tan in pits on the shore, and afterwards beat out with bars : the women then spin it and it is made into cords for sewing (the planks of) ships together. These cords are exported to India, China and Yemen and are better than hemp. The Indian and Yemenite ships are sewn together with them, for the Indian Ocean is full of reefs, and, if a ship is nailed with iron nails, it breaks upon striking the rocks, whereas if it is sewn together with cords, it gives a certain resilience and does not fall to pieces." (50)

Ibn Battuta also informs us that in his time the islanders exported cowrie shells to Bengal and Yemen, where they were used as money. He further states that "these shells are used also by the negroes in their lands; I saw them being sold at Malli and Gawgaw (sc. in West Africa) at the rate of 1,150 for a gold dinar."

The name Diba persisted for a long time amongst Arab writers either as the collective name for the whole, or else as the name of the principal island, of the Maldive archipelago. Thus in some sailing directions, which were published in about 1554, Sidi Ali Celebi refers more than once so the "islands of Diba" as well as to the "monsoon of Diba", which provided a favourable wind for ships proceeding to Bengal, Burma, Malaya and Sumatra. (51)

Ibn Battuta's reference to the export of coconuts from the Maldive Islands is interesting inasmuch as one of the few virtuous deeds, which tradition in Pemba attributes to the Wadiba, is the introduction of the coconut tree. His description of the manufacture of coir rope is likewise interesting. It might well be a description of the very extensive coir industry which is carried on at the present time at Makunduchi at the southern and of the island of Zanzibar, but one must not forget that similar cultures in different lands may often have entirely independent origins.

It is equally interesting to find cowries being exported from the Maldives to Africa for use as money. Although in course of time Zanzibar and other places on the East African coast eventually developed a cowrie industry of their own and became purveyors of this article as a form of primitive currency in the interior of the continent, this local industry does not appear to have been at all extensive until these regions were opened up for trade during the nineteenth century. Until then most of the cowries in circulation in the interior of Africa appear to have come from Maldive Islands. Even when the increasing demand for this form of currency led to an increased use of the local cowrie, those from the Maldives still found a good market in East Africa. The blue Zanzibar cowries are larger than the white Maldive cowries and the latter were reckoned considerably more valuable, not only because of the higher cost of transport to East Africa, but also because, once in Africa, they could be transported easily and cheaply owing to their smaller weight. (52) The fact that in the fourteenth century Maldive cowries reached West Africa is also interesting. It was not until 1813 that an enterprising German firm first began to export Zanzibar cowries to those regions. (53)

It is also interesting to note Ibn Battuta's mention of the demand for Maldive coir for the construction of ships. As already seen, one Pemba tradition credits the Mkame Mdume with proficiency in building *mitepe* (sewn vessels). In *Man* (1919), p.46, G. J. W. Lyddeker recorded a tradition which comes from the region of Lamu. According to that tradition a number of people, whom the local inhabitants called Wadiba, were shipwrecked off the Bajun coast and settled here. Their vessels were said to have been blown out of their course and to have become total wrecks on the rocks near the island of Kiwayu, which lies about thirty-five miles to the north of Lamu. This catastrophe is said to have occurred some time prior to the arrival of the Portuguese. The local inhabitants gave the castaways a friendly welcome. The Wadiba intermarried with the people of the country and began to build vessels after their own fashion. Until then the Bajun had no boats except dugout canoes. They were so attracted by the new design that they copied it, substituting local mangrove timber for the coconut planks whereof the original Wadiba vessels had been built.

As James Hornell has pointed out (52), there are a number of similarities between the East African *mtepe* and the smaller Maldive sailing craft. Each of them uses a square sail rig and the lines of the East African *mtepe* approximate very closely to those of the open or partially decked vessels of the Maldives. As Hornell also says, the Maldivian sailors of to-day are ready to make long and hazardous voyages which "expose them to just such peril as that to which is attributed the wrecking of Wadiba vessels near the coast of Lamu."

The case for identifying the Wadiba with the medieval inhabitants of the Maldive Islands would appear to be a strong one. The evidence in support thereof is not based solely upon tradition, but also on archaeology and the statements of contemporary writers. It is as follows —

(1) Medieval Arab geographers knew the Maldive as the Diba Islands.

(2) There are the statements of Dimaski and Ibn Battuta as to communication between the Maldive Islands and Mogadishu and other places in Africa.

(3) The Maldive Islanders exported coconuts, which tradition says were first brought to Pemba by the Wadiba.

(4) They also exported cowries to Africa.

(5) The similarity in design of certain Maldivian craft with the *mitepe* supports the tradition that the Wadiba introduced these latter vessels to East Africa.

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(5) Baxter — T.N.R. xvii. 18

(6) Baumann — *Die Insel Sansibar* pp. 34, 35, 37; Ingrams p. 127; Pakenham p. 17; Werth i. 114, ii. 136; Voeltzkow p. 272; Last.

(7) Baumann — *Die Insel Mafia* pp. 28, 33, 35; Revington — T.N.R. i. 35.

(8) Burton ii. 361; Stuhlmann p. 863.

(9) Dale p. 13

(10) Stuhlmann p. 854

(11) T.N.R. i. 35

(12) Ingrams p. 128

(13) Barros — Dec. 1, Book ii, Chap. ix

(14) Barbosa i. 128, 129, 131, 132

(15) Ferrand p. 347

(16) Walker p. 15

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(18) Barros — Dec. 1, Book ii, Chap. x

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(21) Mathew — *The Archaeological Situation* pp. 1, 2

(22) Dunbar p. 127; Rawlinson p. 147

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(26) Barros — Dec. i, Book vii, Chap. vi; Walker pp. 21-23

(27) Walker pp. 29, 30

(28) Walker pp. 36-38

(29) Guillain i. 294

(30) Dunbar p. 129; Briggs p. 243

(31) Mathew — *Islamic Merchant Cities; A Medieval Islamic Kingdom*

(32) Greenlee pp. 105, 159
(33) Goes — Chap. xxxvii; Barros — Dec. i, Book vii, Chap. iv
(34) Last
(35) Voeltzkow p. 250
(36) Last
(37) Ingrams p. 125
(38) Ingrams p. 140
(39) Ingrams p. 142
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(41) Ingrams pp. 140-142
(42) Ingrams p. 141
(43) Ingrams p. 142
(44) Buchanan pp. 13, 15, 16; Ingrams pp. 139, 143, 144
(45) Kirkman
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(47) Barros — Dec. ii, Book iv, Chap. ii
(48) Ferrand p. 379
(49) Ferrand p.396
(50) Gibb p. 243
(51) Ferrand pp. 487, 531-536, 541
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NOTES ON THE FAUNA OF KILIMANJARO

By N. J. Guest and G. P. Leedal

INTRODUCTION

During the course of the joint Sheffield University and Tanganyika Geological Survey Expedition to Kilimanjaro during the months June-October, 1953 a certain number of observations were made upon the fauna of the mountain. Owing to the long stay on higher parts of the mountain and exploration of previously little visited areas a number of interesting discoveries were made. The most important of these was the finding of mammalian bones on the summit area of Kibo. Other interesting discoveries included the finding of buffalo horns at high altitudes on the west side of Kibo, elephant remains on the Shira ridge and a colobus monkey at an altitude of over 15,000 feet on the south-east side of Kibo. Details of these and other findings are listed below.

The standard description of the Kilimanjaro fauna is that by R. E. Moreau (1944) and this work has been of great help in the compilation of these notes. Another recent account is that of G. H. Swynnerton (1949) who visited the Shira Plateau of Kilimanjaro with Dr. Salt's Expedition (Salt, 1949).

MOORLAND AND MOUNTAIN FAUNA

The following list is not intended to be an exhaustive one of all the higher altitude mamalian fauna of Kilimanjaro but is solely drawn up as an amplification of Moreau's description.

Colobus Monkey

Colobus polykomos caudatus Thomas

The colobus monkey is very common in the forest belt of Kilimanjaro ranging up to 10,000 feet. A remarkable discovery was made of the frozen remains of a colobus in a small cave at 15,350 feet on the south-east side of Kibo. The surrounding country is a rock wilderness completely different from the normal habitat of the colobus. It is interesting to note that Julian S. Huxley in a letter to "The Times" has recorded the corpse of a monkey from the summit of Muhavura (13,500 feet) in south-west Uganda. He concludes that this is one more instance of animals going uphill to die. This appears to be the only explanation for the Kilimanjaro colobus unless it had been terrorised into flight up the mountain by another animal.

East African Wild Dog

Lycaon pictus lupinus Thomas

A considerable number of bones of the East African wild dog were collected from 18,800 feet on the north side of the Great West Notch, Kibo. They were identified by Dr. MacInnes of the Coryndon Museum, Nairobi. This is the first record of *lycaon* from Kilimanjaro.

Civet

Civettictis civetta schwarzi Cabrera

During our exploration of the Kibo summit area a small pile of bones was discovered on the outer south-east margin of the Northern Glacier and about 100 yards north of the Hans Meyer Notch at an altitude of 18,300 feet. These bones, which included the skull, were identified at the Coryndon Museum as belonging to a civet cat. The previous highest record for the civet cat was 15,000 feet.

Serval Cat

Felis serval hindei (Wroughton)

Capt. Moore late of the Game Department of Tanganyika has recorded spoor of this species up to 12,000 feet and dung up to 15,000 feet. Dr. Salt's party saw one on the Shira Plateau.

A serval cat was seen in the upper Garanga Tal at 13,100 feet. On the west side of the Lagerbach, Shira Plateau a somewhat mauled head of a serval cat was found at an altitude of 14,075 feet. One of the ears was completely missing and the head had been severed from the body at the neck, presumably by leopard.

Leopard

Felis pardus pardus Linn.

Leopard remains have been found on the summit area of Kibo at 18,500 feet. Swynnerton records droppings from the Shira Plateau up to 12,500 feet. They were heard by us in the Dreikonigtal, Mawenzi at 13,800 feet and droppings were observed in the valleys on the south side of Kibo and elsewhere.

Groove-Toothed Rat

Otomys sp.

Swynnerton collected a specimen, identified as *Otomys angoniensis ellassodon.* Osgood, from the Shira Plateau area where it is found up to at least 12,300 feet.

A rat killed at the Expeditions base camp at 12,000 feet on the south side of Mawenzi has been identified from photographs as almost certainly *Otomys* sp.

Four-Striped Grass Mouse

Rhabdomys pumilio diminutus (Thomas)

Swynnerton has recorded this mouse from 12,100 feet on the Shira Plateau.

The four-striped grass mouse proved very destructive as far as our food supplies were concerned at the Standlager Camp (13,600 feet) on the Shira Plateau. Three specimens were collected with little difficulty. The highest specimen (found dead) was collected on the west side of the Oehler Tal at 13,700 feet. A mouse killed at Mawenzi hut (15,000 feet) by one of the authors (N. J. G.) in 1951 may have been *rhabdomys.*

Elephant

Loxodonta africana (Blumenbach)

Swynnerton records elephant up to their camp I (8,700 feet) on the right bank of the Engare Nairobi North.

Elephant teeth were found at 13,000 feet on the northern end of the Shira Ridge. This appears to be the first record of elephant at high levels on this side of Kilimanjaro.

Bush-Pig

Potamochoerus porcus daemonis Major

Moore has observed spoor up to 9,000 feet and Swynnerton up to about 10,400 feet on west Shira.

Associated with the bones of the wild dog found on Kibo was a single bone (Lt. metacarpal III) belonging to a pig.

Reedbuck, Chanler's

Redunca fulvorufula chanleri (W. Rothschild)

Moreau records seeing what he thought to be a reedbuck up to 11,000 feet on the north side of Kibo. Moore thinks dung which he saw at 15,000 feet belonged to reedbuck. Meyer (1891, pp. 183-4) describes the remarkable discovery of the dead body of an antelope — "one of the smaller species we had noticed on the pasture-lands below" — at about 18,400 feet in Hans Meyer Notch, Kibo. This antelope may have been Chanler's reedbuck. It was found by Meyer amidst crevassed ice and he considers that it must have climbed to the summit area of Kibo when the ice was snow covered.

At an altitude of 15,800 feet on the south-east side of the Sudspitze, Mawenzi two small buck were seen at a distance of 150 yards. These may have been reedbuck or possibly klipspringer. Buck were also seen in the upper See Tal, Mawenzi up to 13,500 feet.

Thomson's Gazelle

Gazella t. thomsonii Gunther

A well preserved horn of Thomson's gazelle was found just below the Standlager camp on the Shira Plateau at an altitude of 13,000 feet. This appears to be the first record of gazelle from the higher parts of Kilimanjaro.

Eland

Taurotragus oryx pattersonianus Lydekker

The eland is one of the most abundant and widely distributed animals on the higher parts of Kilimanjaro. Previous observers have recorded seeing eland from points of considerable altitude on the mountain. Moore has seen dung up to 16,000 feet in the corrie above Mawenzi hut. Swynnerton has recorded them up to at least 15,000 feet on the west side of Kibo and remarks upon their widespread distribution on the Shira Plateau.

Eland and traces of eland were seen on numerous occasions during the course of the expedition. The highest observed traces were at 16,000

feet at the head of the Dreikonigtal, Mawenzi. Fresh eland tracks were seen in the snow at 15,600 feet on the north side of the Lavaturm, west Kibo. This area appears to be a favourite congregating ground as numerous tracks were seen in the boggy ground. A dead eland was found on the rocky summit ridge of a peak at the head of the Garanga Tal, south Kibo at an altitude of 15,150 feet. Although the eland population must be quite numerous visual observation of them is rare. A small herd was seen on the lower part of the Shira Plateau (12,000 feet). A single, large male eland was seen on the plateau at the head of the Fuga River (13,200 feet). The remains of an eland were found a few hundred yards above Mawenzi hut (15,000 feet). Summarising, briefly it may be stated that there are six known areas on Kilimanjaro where eland are known to occur :— (i) the Shira Plateau, (ii) the west side of Kibo up to at least 15,600 feet, (iii) the Saddle area and the slopes to the north and south, (iv) the west slopes of Mawenzi up to 16,000 feet, (v) the valleys on the south and south-east side of Mawenzi up to 16,000 feet, and (vi) the south side of Kibo up to at least 15,200 feet. We did not observe any signs of eland on the north side of Kibo.

Buffalo

Syncerus caffer caffer (Sparrman)

Johnston (1888) records buffalo up to 14,000 feet and he considered that they might have reached the Saddle area. Numerous crossings of the Saddle by members of the expedition failed to reveal any signs of their presence in that area. On the western side of Kilimanjaro, Swynnerton states that evidence of buffalo were seen at camp I (8,900 feet) but that they did not appear to reach the plateau at any point. The expedition did not observe buffalo on the plateau, but at its eastern extremity on the west side of Kibo two sets of buffalo horns were discovered. One pair was found in a small lava cave below the Credner Glacier at an altitude of 15,400 feet and another pair near the Penck Glacier at about the same altitude. These are the highest records so far obtained for buffalo on Kilimanjaro. In the areas were the horns were found there is no vegetation whatsoever so that the presence of buffalo must be considered quite abnormal. Buffalo have been recorded from 14,500 feet on Mt. Kenya, (Moreau, 1945, p. 72).

The complete list of mammalian fauna known to exist on Kilimanjaro is given below. This is taken from Moreau with the addition of the two new records described in this paper (East African wild dog and Thomson's gazelle) and that of Swynnerton's (Swamp rat). The altitudes given in brackets after the name of the mammal indicate the approximate highest point where it has been observed or known to have visited. The letter "F" indicates that the mammal is found only in the forest belt or below. The list is arranged alphabetically according to English names.

Buffalo (15,400 feet), bushbaby (F), bushbuck (F), bush-pig (18,800 feet), civet (18,300 feet), dikdik (11,000 feet), duiker (F?), East African wild dog (18,800 feet), eland (16,000 feet), elephant (Moore 16,000 feet, 13,000 feet Shira), four-striped grass mouse (15,000 feet ?, 13,700 feet), genet (F), groove-toothed rat (*Otomys sp.* 12,000 feet; *otomys angoniensis* elassodon Osgood, 12,300 feet), harsh-furred mouse (9,600 feet), klipspringer (12,500 feet), leopard (18,500 feet), mole rat (*Tahyoryctes,* up to

at least 14,000 feet), mongoose (*Myonax sangineus ibeae* wroughton, F), monkeys ("blue" ("Sykes"), F; colobus, 15,350 feet), mouse (*Dendromus nigrifrons nigrifrons* True, F), pigmy mouse, (*Legadda,* 6,000 feet), porcupine (11,500 feet), rat (Kusu, *Arvicanthus* sp., 10,000 feet), ? reedbuck (Chanler's, 18,400 feet-Meyer's "small antelope"), rhinoceros (9,000 feet), serval cat (14,075 feet), short-haired rat (F), shrew (F), squirrels (*Heliosciurus rufobrachium undulatus* (True); *Paraxerus ochraceus druscensis* Pagenstecher; Paraxerus byatti (Kershaw), striped grass mouse (F), suni (dwarf antelope, F), Thomson's gazelle (13,000 feet), tree-dormouse (F), tree hyrax (F), zorilla (F).

THE MOORLAND AVIFAUNAE

Moreau (1936, 1939 and 1944) has given a full description of the birds resident on Kilimanjaro including those of the moorland. Further observations are described below.

Stork (?) or some large bird

Three bones (Rt. scapula, humerus and radio-ulna) and a few feather remnants were found at 18,700 feet near Stella Point, Kibo. They were identified at the Coryndon Museum, Nairobi. Though somewhat remarkable the occurrence of this bird on Kibo is not entirely unexpected. Wild geese have been reported as flying as high as 29,000 feet. Cranes, whilst on migration, have been reported as flying at great altitudes.

Lammergeyer

Gypaetus barbatus? meridionalis (Keys and Blas.)

Although six members of the expedition spent over two months in various parts of the mountain, including the generally inaccessible country on the east side of Mawenzi and the south and south-west sides of Kibo, the lammergeyer was not observed and it appears doubtful, therefore, whether it still nests on the mountain. It has been reported from the country south of the nearby Chyulu Range in Kenya.

Augur Buzzard

Buteo rufofuscus augur (Ruppell)

This bird was seen on many occasions on the east side of Mawenzi up to at least 16,000 feet, on the Platzkegel, Shira and elsewhere.

Eagle Owl

Sp. unknown

What appeared from a distance to be an eagle owl was observed on the south-east side of Mawenzi in the Dreikonigtal and it was heard hooting at night on several occasions. An owl (eagle owl ?) was heard in the upper Lent Tal (14,300 feet). If these records are of the eagle owl then they are the first from Kilimanjaro though Moreau suspected its presence by analogy with Mount Kenya where it is well known.

White-Necked Raven

Corvultur albicollis (Lath.)

The white-necked raven proved to be a great nuisance throughout our

stay on the mountain. As Moreau states these birds are "complete opportunists, taking anything edible." They generally scour the mountain in pairs sometimes in double pairs and on one occasion a small flock was seen. The total raven population above 12,000 feet is probably not more than two dozen. Wherever we went the ravens followed and serious food losses due to these birds were sustained at Mawenzi hut, on the north side of Kibo and elsewhere. After a time they became very bold waiting a short distance from our camp for our departure preparatory to their food foraging. They were in constant attendance at the Leopard Point camp, 18,500 feet on Kibo.

Scarlet-Tufted Malachite Sunbird

Nectarinia johnstoni Shelley

This brightly coloured sunbird was seen up to 13,500 feet in the valleys on the south side of Kibo, on the Shira Plateau and the moorland south of Mawenzi. A second brightly coloured species was seen at 11,000 feet in the Great Barranco of Mawenzi, possibly Cinnyris mediocris or Nectarinia tacazze.

Sudan Dioch

Quelea quelea aethiopica (Sundevall)

An adult, female dioch was found in the ice of the Northern Glacier of Kibo at an altitude of 18,300 feet. This small bird must have been carried by strong, uprising winds to her final icy resting place on the Kibo glacier.

Cardinal Dioch

Quelea cardinalis (Hartlaub)

An immature cardinal quelea was found in a cave at 13,100 feet in the Weru-Weru valley, south-west Kibo. Presumably it had been carried there by wind, its normal habitat being about 4-6,000 feet.

Yellow-Crowned Canary

Serinus flavivertex flavivertex (Blanford)

A specimen of this canary was collected on the moraine west of the Weru-Weru at 13,400 feet. It is commonly seen in the valleys on the south side of Kibo up to 13,000 feet, and elsewhere on the mountain.

Thirteen species are now known to make up the moorland avifaunae of Kilimanjaro. These are :—

Buzzard (2 species), canary, eagle-owl (?), grass-warbler, hill chat, lammergeyer (resident?), plover, raven, seed-eater, snipe, sunbird, swift. Plover and snipe were recorded for the first time from Kilimanjaro by Salt's expedition to the Shira Plateau.

ACKNOWLEDGEMENTS

We wish to record our thanks to Dr. MacInnes and Mr. J. G. Williams of the Coryndon Museum, Nairobi for their help in the identification of specimens and compilation of these notes.

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THE DEFENSIVE MEASURES OF CERTAIN TRIBES IN NORTH-EASTERN TANGANYIKA

PART II

Iraqw Housing as Affected by Inter-Tribal Raiding

By H. A. Fosbrooke

INTRODUCTION

This is the second of a series of four articles dealing with the various defence measures evolved by the tribes of North Eastern Tanganyika in pre-German days. The present article deals with the Iraqw of Mbulu District, but before proceeding with a description of this material, it is necessary to hark back to the first article, entitled "The Gweno Bolt Holes." This described a series of artificial caverns dug out of the hillside in the North Pare Mountains, and perhaps gave the impression that the small Gweno tribe were the only people who practised this defence measure in North Pare. This is not so, as examples are found in the country of the Asu or Pare tribe, who inhabit the southern end of the North Pares.

Two caverns are found in the Usange area at Goma and Kiriche. Both of these have been re-excavated and are well worth a visit by anyone visiting the area. The former bolt hole has an interesting history, for when the first German column arrived in the area in 1887 Naguvu the chief of Usange went underground there with the whole of his family save one little boy. Those in the refuge alleged to number between 100 and 150 were all killed, being suffocated by fires lit at the entrance; the one small boy who survived was Sabuni, for long Chief of Usange and father of the present Chief William. With the latter's sanction and under his guidance this bolt hole was recently excavated. Besides human remains it yielded pottery, beads and brass and iron bracelets, and so gives a picture of the pre-German Pare material culture. From the evidence of old smelting sites, as well as from oral tradition, we know that the Pare have long been iron smelters; there is, however, no evidence to suggest that the brass bangle was locally made. On the contrary, it most probably came in as an article of trade, concerning which Mr. H. G. Burks, Metallurgist in the Department of Geological Survey comments as follows :

> " . . . The most interesting of the specimens is the brass bangle.
>
> Before about 1800 all brass was made by heating copper sheets with a mixture of "calamine" (zinc carbonate) and charcoal, the liberated elemental zinc being absorbed by the copper to form brass of rather vague composition. This process is reported by all the ancient historians and was certainly known in ancient China and India. Elemental zinc was not produced in quantity until about 1800 and therefore the present method of making brass by smelting together copper and zinc was not available. Any ornaments other than those made directly from the plate would have to be made by re-smelting the brass sheet and casting to the desired rough shape, and it is felt that normally the zinc content of such an ornament, especially if it had been melted a number of times, would be lower than the 35% present in the specimen, as the tendency is always to lose zinc on re-

Fig. 1. Fort at Lambo, Gweno, North Pare area; the objects at the feet of the Elders are portions of a sacrificial goat.

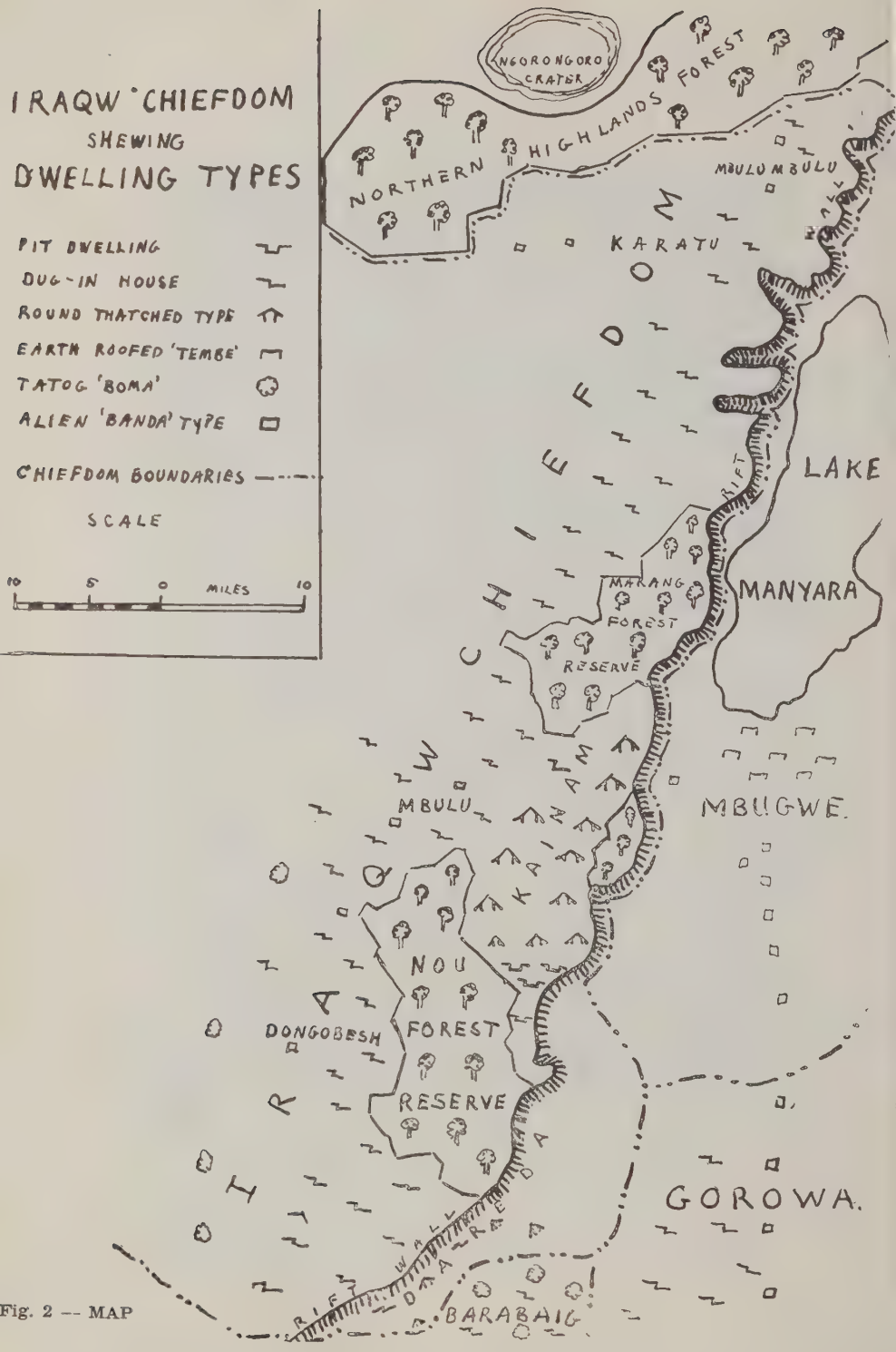

IRAQW CHIEFDOM
SHEWING
DWELLING TYPES
PIT DWELLING
DUG-IN HOUSE
ROUND THATCHED TYPE
EARTH ROOFED 'TEMBE'
TATOG 'BOMA'
ALIEN 'BANDA' TYPE
CHIEFDOM BOUNDARIES
SCALE
10 5 0 MILES 10
NGORONGORO CRATER
NORTHERN HIGHLANDS FOREST
MBULU MBULU
KARATU
IRAQW CHIEFDOM
RIFT WALL
LAKE MANYARA
MARANG FOREST RESERVE
MBULU
MBUGWE
NOU
DONGOBESH
FOREST RESERVE
GOROWA
BARABAIG

Fig. 2 — MAP

melting. I can find no information on the composition of the pre-1800 brasses, but feel that normally they would be of the "70-30" type, that is that they would contain anything over 70% copper, according to the skill of the brass maker, the length of time of heating and the temperature of the operation. I cannot think that the "60-40" brasses, containing a higher proportion of zinc, would be popular with the artisans, as they are much more difficult to work and ae subject to cracking and embrittlement, although they do melt at a lower temperature than the 70-30 types.

The point of this explanation is that I feel some doubt about the age of the brass bangle and suspect that it is probably later than about 1850. Whether this comes under the heading "pre-German" or not I cannot say. Also I cannot say what the definition of an "undisturbed" site is, but I suspect that it may be as little as ten years unless there is definite proof from vegetation to the contrary.

It can be stated with certainty that the brass has not been manufactured in either Tanganyika or Kenya, and that it is very unlikely to have been produced in Uganda or the Congo. It is probably a finished article brought in as an article of exchange possibly by Arab traders or slavers, in my opinion later than about 1850."

To which interesting and informative note I would only comment that slaving was at a minimum in the area concerned, and Arab penetration negligible, so, whilst not doubting the trade origin of the article, I would be doubtful of its association with Arabs or with slavers.

One or two articles of the famous Pare tin were found in this site, proving that this metal was in circulation in the area in pre-German times. A full and authorative report on this interesting occurrence has been prepared by Mr. A. C. M. McKinlay of the Department of Geological Survey and appears in the Geological Survey Records for 1952.

STONE FORTS

Defensive measures in the Pares were not entirely confined to bolt-holes; stone forts were also found. One is known to me near the Chief of Gweno's house, whilst another is said to have existed at Goma in Usange, being connected to the underground caverns mentioned above. Yet another is described by Mr. G. Gordon (to whom we are indebted for the photo, fig. I) as being sited at Mafingeni, Lambo, Gweno. He states :—

" . . . The only snag about photographing the place was that it is so closely hemmed in with bush and rocks that it was impossible to get any distance away in order to take a general view of the whole fort. The two old men are Mayange Mbogho and Temba Mehan. They slaughtered a goat, which apparently always has to be done when the place is visited."

Stone forts were also common in the Chagga area, as will be described in a subsequent article.

IRAQW HOUSING AS AFFECTED BY INTER-TRIBAL RAIDING

The Iraqw is the largest of a group of four allied tribes, Iraqw, Gorowa, Alawa and Burungi, in the Mbulu District of the Northern Province and the Kondoa District of the Central Province of Tanganyika Territory. These four tribes split up from a common stock within historic times, i.e. the split is recorded in tribal tradition as occurring between ten and twelve generations ago. The 1948 census revealed their present numbers approximately as follows :—Iraqw, 107,000; Gorowa, 10,000; Alawa, 11,000; and Burungi, 9,000. The group is generally, but on insufficient data, classed loosely as Hamitic. They certainly are far divorced from their Nilo-Hamitic (Masai and Tatog) and Bantu (Rangi, Mbugwe and Nyaturu) neighbours; linguistically they appear to form an isolated group so far unidentified.

The Alawa and Burungi use a house type similar to that of their Bantu neighbours, a low rectangular dwelling with walls of poles and mud, and an almost flat earth roof supported on poles and sticks (the common **tembe** of Central Tanganyika). The house site is chosen on flat ground and the floor level is frequently a few inches below the surrounding ground; this however is due to the removal of the loose soil **after** building and to subsequent sweeping and scraping up of cow dung.

The characteristic of the other half of the group, the Iraqw and Gorowa, is that they excavate the house site prior to building. The typical site backs up against rising ground, so that the back wall of the house consists partly or wholly of excavation; the side walls become progressively less excavated and more built above ground from back to front; the front wall is (with the exception noted below) always built up. The above ground building of the back and side walls is most frequently, in the case of Iraqw, constructed of turves and the blocks of hard soil produced from the excavation; the front wall is constructed of upright posts planted close together, the interestices being filled with mud.

The Gorowa house is characterised by all four walls, in so far as they are above ground, being constructed of poles instead of turves. The roof in both cases is of earth, laid on poles and withies, the weight supported by frequent upright poles evenly distributed over the floor space. The roof of Gorowa houses is much more hump-backed than the Iraqw, but in both cases the symmetry and the weather-proof quality of this type of roofing is remarkable.

From legendary and genealogical evidence the locality of this ethnic group prior to their division and migration to their several present-day habitats ten generations ago is known. Since that time until recently their previous dwelling area has only been grazed over by the pastoral Barabaig, so some house sites of 250 or more years ago are undisturbed by agricultural activity and clearly visible. No excavation has yet been undertaken, but these sites present a unique opportunity of ascertaining the details of these proto-historic huts. The site which I have preliminarily examined, without excavation, shows alternate depressions and mounds. The contours have been so smoothed off in the course of time that one cannot say whether the houses were round or square, nor can one say whether the mounds are excavated material or kitchen middens. The houses are closely grouped on top of a rounded, grassy hill, presumably

Fig. 3. Typical "Kainam" type house, with flattened site — note excavations on left, timber and mud walls and roof of reed thatch.

Fig. 4. Dilapidated pit dwelling with the upper figure standing at ground level and the lower at roof level. The partition between verandah (on left, still partly roofed) and inner dwelling, open on right, can be observed. It is composed of the living soil, left *in situ* when the dwelling is excavated.

Fig. 5. Pit dwelling with all four walls of living earth. The adit or entrance ramp shows clearly, with the poles which form the door on the right, and the drainage channel demarcating the limit of the roof at the back and left.

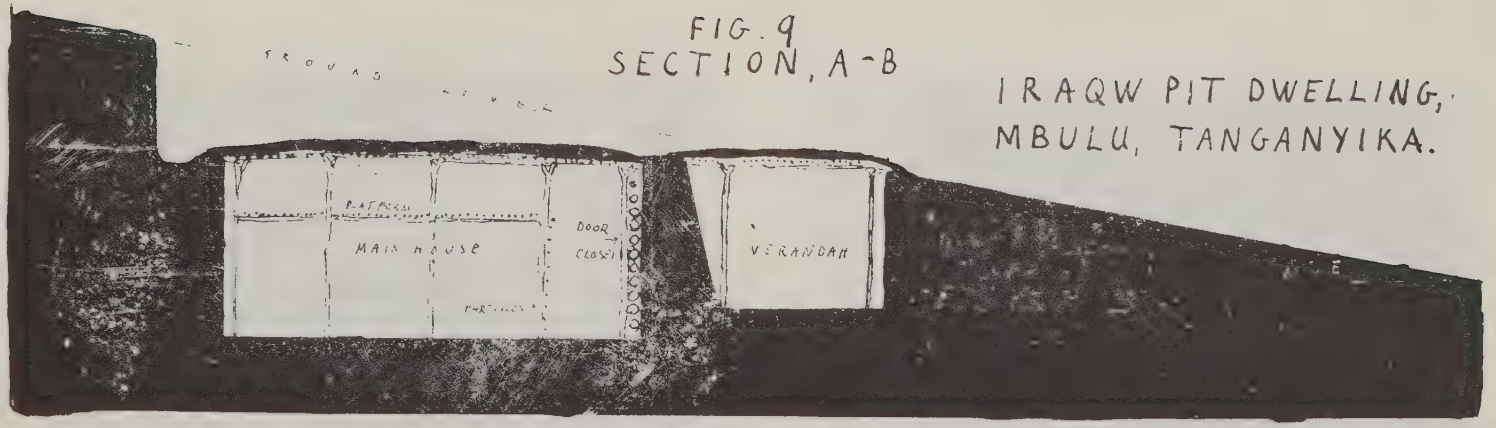
Fig. 6. Half-pit dwelling walled by earth on three sides—poles and mud in front. This illustrates the curvature of the roof and shows how the excavation on the inner side is greater than the height of the hut. Cattle manure in right foreground.

Fig. 7. An abandoned house site showing how the walls and corners are smoothed out and grassed over. From present appearances a circular dwelling without exit is suggested, but this is not so. The entrance adit is now only indicated by a slight depression on left. The figure indicates depth of depression

Fig. 8. Dug-in house on left, with the thatched kitchen on right. This is a frequent combination found in the area of original inhabitation in Kainam, in the early expansion area round Mbulu and, as in the example illustrated, in the recently pioneered areas in Barabaig country (Giting).

FIG. 9
SECTION, A-B

IRAQW PIT DWELLING,
MBULU, TANGANYIKA.



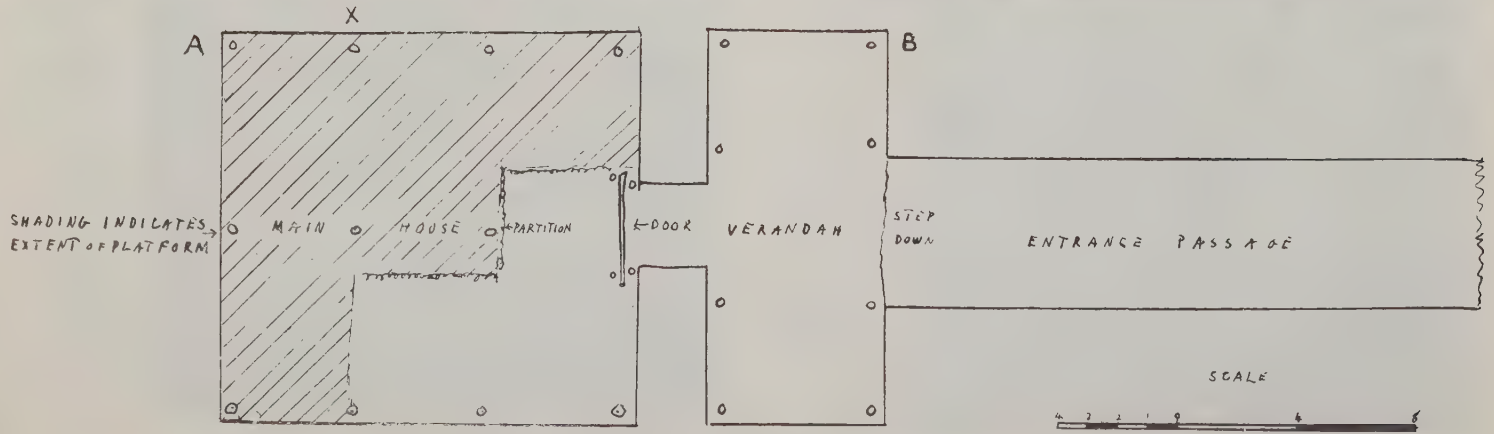


FIG. 10.
PLAN

being so sited for defense purposes: thus the typical Iraqw or Gorowa "backing up" into a hillside is lacking. In contrast to this aboriginal close grouping, all branches today show an even scatter of houses over the land; there is no suggestion of villages except in the case of Burungi, where lineage groups of 10 or 12 houses are to be observed in close proximity, followed by a mile or so of empty country.

In general the proto-historic site suggested to me a semi-excavated house of the Iraqw-Gorowa type, though this tentative conclusion may be upset by subsequent excavation.

The above is background to a closer examination of the changes in Iraqw house types in the last 250 years, i.e., after the arrival of the tribe in the Kainam area, east of Mbulu, the administrative headquarters of the District. This favoured area is immediately to the west of the Rift Wall, at an average altitude of 5,500 to 6,000 feet, bounded north and south by temperate rain forest and on the west by a range of hills (See Fig 2, Map). In environment, agricultural practice and housing it presents a marked contrast to the remainder of the Iraqw tribal area, which has been taken up by expansion in the last century. In the expansion area the housing is, with one or two regions as exceptions, typically Iraqw to a remarkable degree. Without statistical evidence I would estimate about 95% of the houses are of the semi-dug-in type, even in the vicinity of missions or Government stations where alien influence might be expected to assert itself.

This is a distinct contrast to the Kainam area, where, on crossing the western range mentioned above, one is struck by a panorama of rolling country, a veritable valley of a thousand hills, studded with conical thatched roofs. This house type (Fig. 3) has been, and might still well be, called the typical Kainam house. Its floor is not excavated; but where, as is frequently the case, the site is on a hillside, a platform is dug out on which to build the hause. Then a gap of a yard or more is left between the earth wall and the wall of the house. A marked feature of this house type is an upstairs loft where the inhabitants sleep. The roof frame is of timber and bamboo from the forest and the thatching is of reeds from the swamps which occur at frequent intervals in the valleys. It is a matter of conjecture why, in an ethnic group splitting into four, three branches should adhere to square houses with earth roofs, whilst the fourth, the Iraqw, should take up the round thatched house. There is evidence that the Iraqw, on their arrival in the Kainam area, blended with another tribe, the Sule, reputed to have been previously in contact with the Sonjo and Ikoma who have round thatched houses (though with differences in wall types) to the present day. So it may have been Sule influence that brought about the change.

The extraordinary feature of the situation is that since their arrival in Kainam the Iraqw have evolved or adopted the round house, **reverted** to the square earth-roofed house, dug in to an extent unknown elsewhere, and then reverted once more to the round house.

I will here describe this completely dug-in pit-dwelling and then offer an explanation of how it came to be adopted, and then almost completely abandoned.

Only in one extreme corner of the Kainam area (see map Fig 2) is

the pit dwelling now found and in most cases the dwellings are abandoned or in a state of disrepair. An example of a roofless dwelling is shown in Fig. 4, where the three levels, ground, house top, and house floor can be distinctly seen. The internal wall between outer verandah, still partly roofed, and the inner room cut from the living soil, and of wedge-shaped section, can be clearly seen.

A completely subterranean structure is difficult to photograph, and during my stay in the area I had no flash apparatus for internal work, but from measurements recorded at the time Figs 9, 10 and 11 have been drawn up. From this it will be seen that all four walls of the house itself are of the living earth, as also is the partition between the outer porch and the main dwelling. The door is approached by an adit or ramp cut into the hillside and this shows clearly in Fig. 5, where, also on the left, can be seen the 'door', i.e., the poles which are laid horizontally, one above the other between two uprights on either side of the opening to close the hut at nights. Fig. 6 shows a similar house to the previous one, but there the conformation of the ground and nature of the excavation was such that the adit approach is lacking and the front wall made of poles and plaster and not of the living earth. Both side walls are, however, completely dug in, and the right-hand side shows how the roof level on the inner side is considerably below ground level, necessitating consideration being given to drainage. The platform shown in the diagrams, Fig. 9 and Fig. 11, divides the house into an upper and lower storey, each no more than three feet in height.

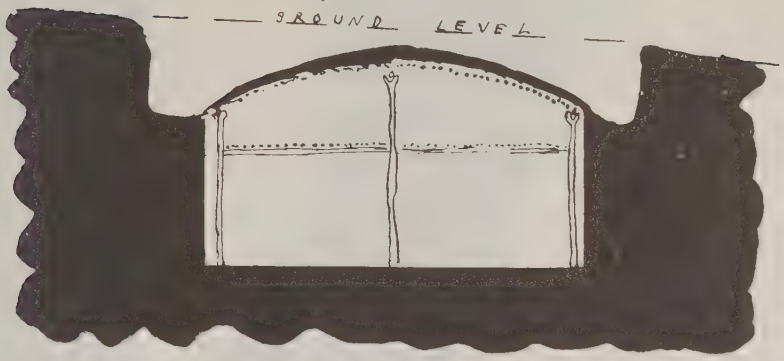
There is no aperture whatsoever in the dwelling save for the door and with this closed at night the resultant atmosphere, contributed to by man, beast and fire, can better be imagined than described. It is frequently stated that the Iraqw and others like to live in the same dwelling as their cattle (note manure pile on right in Fig. 6), as the latter are in effect a form of "central heating." This may be so, but there are limits to human endurance in this respect. The Iraqw who live in the thatched houses practically never construct an outside kitchen, but those who dwell in earth-roofed houses frequently do so — See Fig. 8.

The pit-dwellings **par excellence** here described are now confined to the extreme south-east corner of the Kainam area, see map — Fig. 2, but there is evidence that they were at one time extensively used throughout the area. A large number of the present houses have a grassed-over pit adjacent where, the owners point out, there was a pit dwelling in the time of their grandfathers. Such a depression is illustrated in Fig. 7.

The method of excavating these pits is of interest. A large digging stick, between seven and eight feet long, called **dugutha** is used. It is made of a hard forest timber, is about as thick as a man's forearm, and is cut to spatula shape at the lower extremity. It is driven into the ground to the depth of a foot or more, and then pulled backwards, the hands being placed as high as possible on the stick. Thus the maximum leverage is secured, and so turves or blocks of earth of considerable size are secured intact. These are used for building up the side walls as illustrated in Fig. 13. The same implement and technique is employed when cutting into a slope to level out a bench terrace for cultivation — an indigenous practice peculiar — in this region at any rate — to the Iraqw tribe.

The explanation given for the reversion to pit dwellings from the

FIG. 11
IRAQW PIT DWELLINGS
MBULU, TANGANYIKA.



SECTION X-Y OF HUT SHOWN IN FIGS. 9 & 10

FIG. 12
SEMI DUG-IN HUT, IRAQW
LONGITUDIONAL SECTION

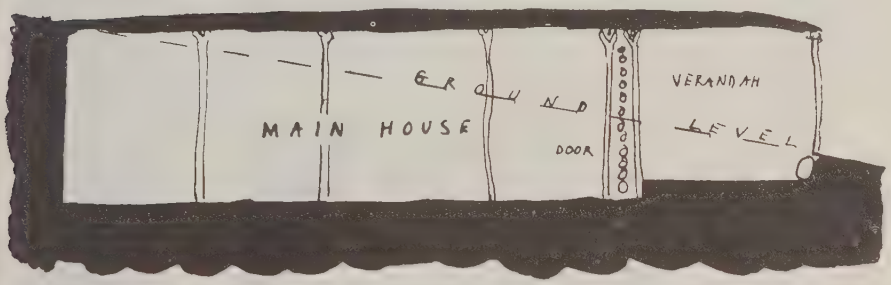


FIG. 13
SEMI DUG-IN HUT, IRAQW
CENTRAL CROSS SECTION

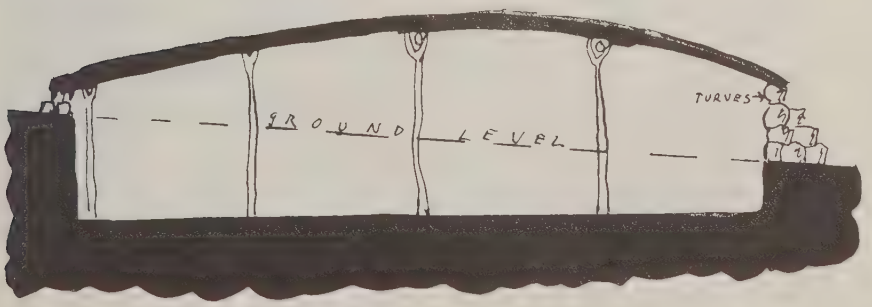
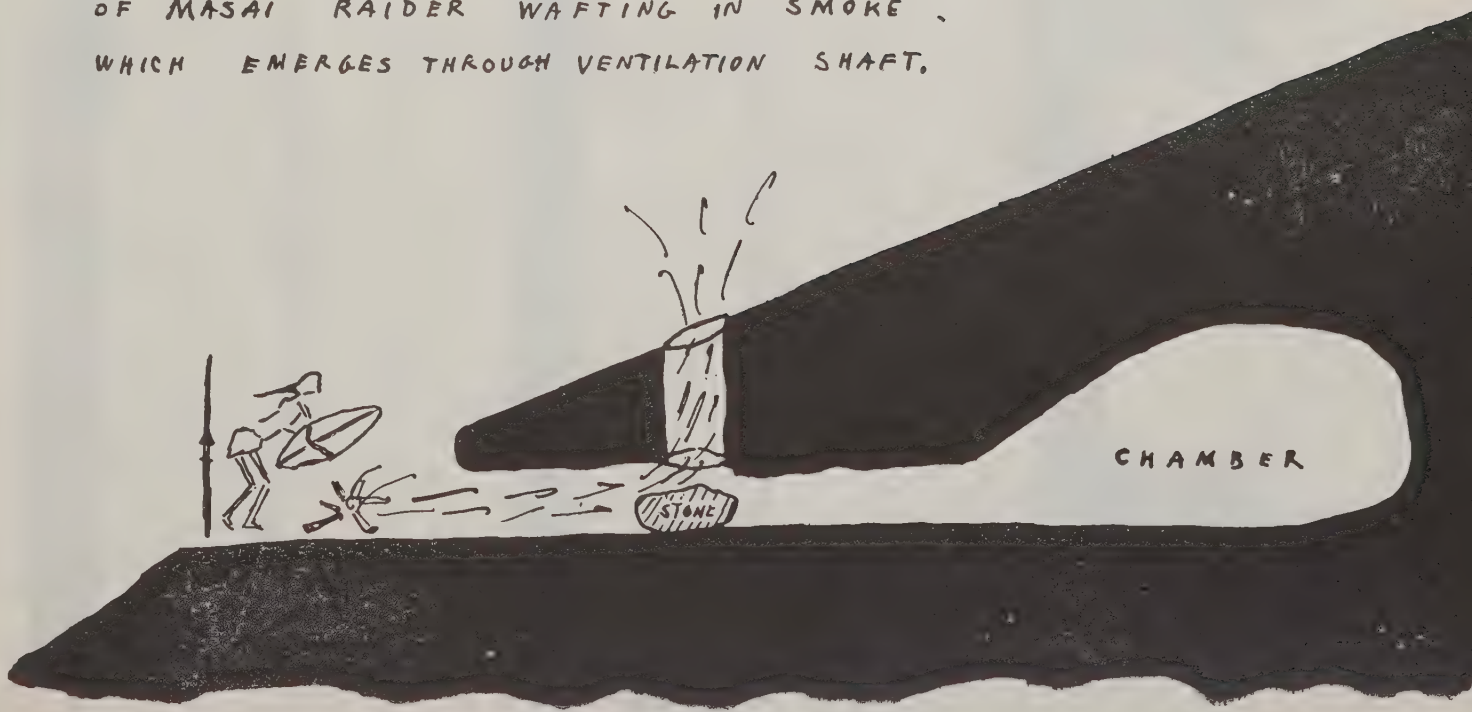


FIG. 14.

IRAQW BOLT-HOLE

DIAGRAMATIC REPRESENTATION, NOT TO SCALE,
OF MASAI RAIDER WAFTING IN SMOKE
WHICH EMERGES THROUGH VENTILATION SHAFT.



earlier round, thatched type, is invariably defence. The pit dwelling cannot be burnt; nor does it present walls which can be broken through or tunnelled under. The roof is vulnerable, but offers no opportunity for the sneak thief raider who aims to drive away the stock without disturbing the inhabitants. The door is, in effect, the only weak point : this is the more easily defended when flanked by earth walls two foot thick, rather than by a pole wall through which a spear can be poked or an arrow shot.

Another form of defence was an underground tunnel leading to a cavern. I have only visited two such, on the northern and western flanks respectively of the immediately pre-European expansion area, and those were so dilapidated that it was impossible to record accurate measurements. It is obvious that they were in no way as elaborate as the Gweno or Chagga underground defences (see Parts I and III of this series) and, from descriptions, appear to have consisted merely of a straight tunnel, perhaps 20 feet long, leading to a cavern or chamber about 10 or 12 feet in diameter.

It is alleged that similar tunnels and chambers were excavated in the past adjacent to the Kainam houses — perhaps in lieu of a pit dwelling. But informants have failed to produce one for inspection, and the most convincing evidence that they can offer is a hollow sound when the ground adjacent to some house site is stamped upon.

One interesting story of move and counter move is that the attacking Masai, when they discovered that the Iraqw had gone to ground, used to light a fire at the entrance and drive the smoke into the tunnel by wafting with their shields. It is said that pepper was sprinkled on the fire to make the fumes more pungent. The Iraqw countered this move by drilling a hole in the roof of the tunnel, which not only served to let out the smoke before it reached the hidden humans and cattle, but also, with a stone underneath it, served as a firing point from which a defender could pop up, loose off an arrow at the attackers and duck down again without being observed. I have tried to illustrate this diagramatically in Fig. 14.

This mention of the Masai brings up the question, "Against whom were the Iraqw defending themselves?"

The dispersal of the Hamitic group into four is ascribed by Iraqw history to a beating they received at the hands of the Tatog Nilo-Hamitic group at a place south of Mount Hanang. Many independent genealogies place this event 10 generations back. A quite independent story of the split of the Barabaig and Kismajeng sections of the Tatog group is dated seven generations ago and located a little to the south-west of Hanang. It is thus certain that the Iraqw were the neighbours of the Tatog prior to their arrival in Kainam and continuously during their sojourn there. But it appears that, in the early days at least, they did not require to take defensive measures against their Tatog neighbours.

Masai history probably provides the answer. It is recorded (Fosbrooke 1948) that in the time of the Merishari age set (1806-1821) the Masai were in the Manyara region, where they fought with a tribe, called by them Adoru; possibly a Tatog section. The next age, the Kidotu (1821) were at Engaruka, the next, the Dwati (1836) at Ngorongoro, and the next, the Nyangusi (1851) at Karatu. All these recorded incidents indicate that the Masai were surging round the area in the early to mid-

19th century. We also have strong evidence to show that the Iraqw arriving in Kainam in the early 18th century first lived in round thatched houses, and later went in for pit dwellings. It is dangerous to argue **post hoc ergo propter hoc,** but in the absence of other known enemies, barring the Tatog, the probability lies in this change in house type being an anti-Masai measure. Not that the Iraqw were free from raids by the Tatog; there is historical evidence that these were frequent events, but the Masai appear to have been the main enemy at the time concerned.

The next obvious question is, "What permitted a reversion to round thatched houses?" This happened in the mid and latter 19th century (**vide** genealogies with reference to abandoned pits) in spite of the fact that the Masai remained active throughout the area during this period. The answer can be deduced from the fact that this period coincides with the time when the Iraqw started to spread out from Kainam into the present Mbulu area, then inhabited by pastoral Tatog. The pioneers did, and do to this day, use the semi dug-in house with earth roof. This screen of pioneers gave freedom from attack to the Kainam people and so allowed them to revert to the round grass type.

From the semi-historical and semi-hypothetical reconstruction of the past housing of the Iraqw, certain lessons can be drawn which are of practical application today. Firstly, the past is often misquoted in this awakening Africa of ours for political ends. For example, the origins of the land tenure system of the Kikuyu have been traced from the pit-dwelling Gumba to the Dorobo and thence to the Kikuyu. This matter was a very live issue at the time of the Carter Commission, 1930, and presumably is no less so today, though lacking an official platform to be aired from. The fact that a tribe can within historical or proto-historical times adopt and then reject pit dwelling can be used to refute such specious claims as might be made by present-day demagogues — where there were pits there were Gumba; the Kikuyu, via the Dorobo, are the lawful successors of the Gumba; **ergo,** where there are pits the land is lawfully the property of the Kikuyu!

The archaelogist or the protohistorian might also take heed of the dangers of regarding as invariable the association of a particular trait with a particular tribe. For here, with the tribal factor (Iraqw) and the space factor (Kainam) constant we have in a fluctuating time factor the succession round thatched, pit and round thatched. Or again, with tribal and the time factor (to-day) constant, we have the spatial variations of pit (south Kainam) round thatched (Kainam generally), and semi-dug-in (rest of Iraqw).

A more practical and immediate issue is the high tuberculosis rate amongst the Iraqw. It is in discussions on this that the statement is frequently made that the Iraqw like the thick atmosphere of their huts, but as is shown above this is only true within limits. The immutability of custom in the matter of housing may well cause the public health authorities to despair, and not without reason. From anywhere in the world examples can be quoted of sheer conservatism prolonging the existence of a particular house type long after the factor dictating the type had been removed. But here we have an example, to hearten the despondent, of change taking place spontaneously and in a relatively short time in pre-

European days; how much easier ought it to be to engineer change with modern publicity methods at Government's disposal.

The environmental factor here comes in; the dug-in or semi-dug-in house may be of some advantage as requiring less timber where this is in short supply, but here again a study of past and present indigenous methods can help. For a tribe with a tradition of building in turves should easily be converted to the use of sun-dried bricks. The tradition of thatch in the Kainam area could also be used to hasten the abandonment of the earth roof (already noticeable in one area, Dareda) and so allow at least that amount of ventilation which a thatched roof provides.

MWARIYE : A SACRED MOUNTAIN OF TANGANYIKA

By C. J. Bagenal

(Reprinted by the courtesy of the Royal African Society from the Journal of the African Society, No. 24 (1924/25)

In the Sub-District of Kibondo, in the country known as Muhambwe, about 100 miles N.-E. of Kigoma on Lake Tanganyika, there exists a mountain which is considered so sacred to the family of the chiefs or "Ba ami" that it may not even be looked at from afar by the chief or any member of the family.

This mountain, which is known by the name of Mwariye, is situated at the extreme western end of the District Makena, where with a twin peak called Fuma it rises some 4,500 feet above sea level, or 1,500 feet above the surrounding country, forming a prominent feature in the landscape for miles around.

I have travelled for days within sight of Mwariye with the present chief, Mwami Nyamalisa, and so strong is the tabu attached to this mountain that not once has the tabu rule been broken, the chief has veiled her face whenever turning in the direction of the mountain.

This tabu in its strictest form exists only for the chief and the chief's family, but it is also observed in lesser degree by every member of the tribe over which she rules.

The reason for the sanctity of Mwariye is explained by the fact that certain of the more celebrated of the chiefs of the past have been buried in a cave near the summit of the mountain.

A description of the cave and the funeral customs of the people is of interest to anyone who needs to consider such matters in his daily dealings with the tribe and its chieftainess.

The country Muhambwe is populated by Bantu people ruled over by a family of Tusi origin who came from the north, and finding the nihabitants still in the village-community stage assumed chieftainship by virtue of their superior intelligence and wealth.

The particular Tusi clan which assumed sovereignty over Muhambwe are known as Buhumbi, and their clan totem is the Nyomvi or black-and-white ox. They tabu as well all wild animals and certain of the domesticated breeds.

The clan has suffered the fate of many conquerors and is gradually being absorbed by the conquered.

For lack of Ba-tusi neighbours the males of the clan have intermarried with the local Bantu.

For this reason the pure Ba-tusi, who only intermarry with other clans of the tribe, look down upon Bahumbi and say they are no longer Ba-tusi but Wa-hambwe, thus giving them the name of the country in which they reside.

The family of the chief, however, still retain some of the characteristics of the Ba-tusi, especially in feature. A loss in stature, however, seems to proclaim the presence of Negro blood.

Many original customs persist, and among them possibly the most interesting are those of embalming and burial.

According to custom, on the death of a reigning chief of Bahambwe the body is taken in charge of certain functionaries called Bilu, who have been appointed by the previous chief from among the children of slave women.

Superstition plays a great part in the lives of all African natives, and it is not surprising to find that the Bilu once appointed are regarded in some dread. They are known as Ba-zira, or "those who are forbidden," i.e. forbidden to meet the chief. They may, in fact, never have been seen by the chief during his or her lifetime. This tabu effectually prevents them from going to the chief to beg gifts of cattle, as is done by all other tribesman, but custom enacts that on the death of the chief all animals which are found by them in the chief's village become their property. It is easy, therefore, to understand with what alacrity the wives and sons of the decreased chief drive away their respective inheritances from the village immediately the death of the chief takes place, while, on the other hand, one may be sure that when the death of the chief is likely to occur, the Wa-zira hasten with all speed to be near the scene of death. In the old days force was frequently resorted to, to prevent the removal of cattle, etc., and the death of a chief meant more often than not the slaying of many of his followers who were attempting to drive away his livestock.

As a consequence of this habit the village of the chief immediately on his demise is deserted by all but the Wa-zira, whose duty then is to embalm the body of the deceased chief.

The Wa-zira erect two platforms such as are used for drying meat, one over the other. Over the whole a grass hut is built.

The body is placed on the upper platform, while on the lower platform the meat of an ox is placed. A fire is lit below and the drying process commences.

The ox slaughtered is usually white in colour. The head is cut off and the skin is used later as a shroud. The body when dry is folded and neatly sewn up in the ox-hide, which is again encased in a neatly woven covering of cane (Henzerani). The meat of the ox, on to which any exudation from the drying body may have fallen, is eaten by the Bilu, who are said to have "eaten the chief" and to be therefore tabu.

The body thus packed is taken by Wa-zira and transported to Mwariye, where it is handed over to another functionary for burial,

I had so often heard from natives of the sepulchre at Mwariye that my curiosity was thoroughly aroused and I determined to visit the spot.

The north end of the mountain ends in a precipice some 100 feet in height, with a wooded slope gradually declining into a saddle between the mountain of Mwariye and Fuma. From the far distance I had been pointed out the Muriango, or door of the cave in this precipice, but although its exact locality was well known to local natives I could never distinguish it with the naked eye. Accordingly, in order to carry out if possible my design to visit the sepulchre, I started from the Government Station of Kibondo on November 22nd, 1923, and after two days' marching through the bush, during which I covered thirty-two miles, I arrived and pitched my camp at the western foot of the mountain in the district of Nyakabingo.

I had taken the precaution to obtain from Mwami Nyamalisa permission to visit the tomb if I could arrange a visit with Mihanga, the guardian. Accordingly, on arrival in camp, I sent a messenger to summon Mihanga, whose village was some three miles away.

About 6.30 p.m. an elderly man arrived at my tent. Of reddish colour, middle height, and with skull shaven except for a small patch behind the left ear (for he may never entirely shave his head during his lifetime), and dressed in a piece of bark cloth, such was Mihanga. Slightly aquiline features gave him an air of distinction.

I invited him to sit down and introduced myself.

He did not seem impressed with my importance, neither did the fact that Mwami Nyamalisa had given her consent to my visit seem to carry any weight.

"He did not know exactly where the tomb was, and although he had been many years in office, he had never buried a chief."

"It was permitted to anyone to see the door of the tomb, but he himself had not yet seen it."

"He had heard that years ago a white man who was looking for limestone had been taken to see it by a native, but he did not know if this was true."

It was explained to him that I had already seen the tombs of the chiefs of Buha and Buvinsa, that there was no ulterior "shauri" in my mind, but merely interest in the place. Would he tell me of a native who would take me there? After demur he explained that he was always paid a pot of honey by any person who desired to worship at the tomb, but that if I would give him some cloth he would send a man to show me the spot, provided I promised not to go too close to the door. I agreed to the gift, but told the old man I had no cloth, but would give money to purchase. This was not satisfactory; his bark cloth was worn out and he wanted to "vaa" there and then. The dilemma was solved by my personal servant, who produced three-shillings worth of "Karikopo." On receipt of this gift the old gentleman's delight knew no bounds. Discarding his bark cloth

he assumed his new clothing, and then commanding me to place both hands together with the palms upper. ost, he blew into them and started to recite an incantation, calling on Kimana (God), Nkanza, Ruhaga (the buried chiefs) and Mu-Shumbuka (the spirit of the tomb) to grant my wish, to bring me elephant and make my hunting successful. He then told me that he was the guardian of the tomb and would take me there himself, provided I did not attempt to enter.

Accordingly, early next morning, in company with Mihanga, the sub-chief Ndawe and my hunter Juma, I proceeded to climb the saddle, between Fuma and Mwariye.

The path here is an ordinary native road, but in reaching the top of the saddle we proceeded to the right hand (s) up a gentle slope towards the face of the precipice which forms the northern extremity of the mountain. The path was now a faint track, evidently not much used. As we ascended, the trees became higher and more open underneath, and huge boulders of sandstone breccia lay all about below the face of the precipice, giving a very picturesque appearance to the scene. At length we reached the spot immediately under the highest point, where the great boulders lay piled on one another in confusion.

"Here", said my guide, "is Mwariye itself; the grave is not far from here." Proceeding along the foot of the precipice for a few hundred yards, we came within sight of a huge single rock fully seventy feet high and crowned with a fair-sized tree, in section some twenty feet square.

This strange monolith stood embedded firmly in the debris which during years past has fallen from the cliff behind it. How this rock managed to become detached from the cliff without falling is a mystery, but movement has certainly taken place, as the very base of the rock was split as if cleft clearly with a knife, leaving an entrance some fifteen feet in height and wide enough to admit a man's shoulders, the front partly concealed by a fallen boulder. This cleft, which is about fifteen feet in depth, leads to an inner cave up which one can climb, so I was informed, for a considerable distance, and in this cave some of the most noted of the chiefs of the past lie at rest. The old man led me to the Muriango, or door into the entrance of the cleft, and there requesting me to remain, he entered the cleft and disappeared from view, calling loudly, "Shumbuka Ruruhaga-Nkanza," and at the same time clapping his hands. He told me, according to custom anything he was given on account of his duties must be exhibited to "Mu-Shumbuka" the great spirit, and accordingly he entered "Mastinga", the inner cave, for that purpose.

After a short stay in the cave, during which I could hear him muttering and stamping, he emerged and we sat down to discuss the place and its associations. He was, he averred, the head of the clan known as Wanya-Misanza, whose totem is the leopard. He and his clan, of whom now only two grown males are in evistence, Lunihileza and himself, have for five generations been the guardians of the tomb. They are known as Wagwirwa Myenyi Mwariye (guards of Mwariye), and he is the direct descendant from the first guardian, Watenda, through Mimarano-Burieria (who buried Mvami Ruhaga) and Kiriamie. His own professional name is

Ndivarimeshi, and he has three male children all young, by name Chugwa, Burieria and Mimarano. He and Lunihileza live on opposite sides of the mountain, and no person may visit the grave except for the purpose of conveying a sacrificial beast which may at any time be sent by the chief. Sacrifices are invariably performed by himself or Lunihileza, but he and his children are absolutely the only persons who may enter the cave. Other members of the tribe who bring the animal for sacrifice must sit at a distance from Muriango, the door of the tomb. Ndawe, the sub-chief who accompanied me, sat about 100 feet away. He himself is strongly tabu to the chief and may not meet her. It is supposed if the Sultan or her children met him or any of his children who had entered the tomb that they would die.

For this obvious reason, although curious to see the interior, I made no attempt to do so, as I knew that in the eyes of the natives this tabu would extend to me also, and that Mwami Nyamalisa, with whom from time to time I have meetings, would be sorely embarrassed by my action.

One of her personal retainers who accompanied me on my journey was not allowed to visit the tomb, as he was in constant communication with the chieftainess.

According to Mihanga, two chiefs only, Ruhaga and Nkanza, are entombed in Shumbuka; the body of the latter he placed there himself. It was brought to him by Wa-zira, sewn up in white ox-hide with a plaited covering of case (Henzerani). He states that he placed the body on a platform high up in the cave; the posts of the platform are made of trees called respectively Mulinzi and Murama. Other chiefs not so great as the two mentioned are buried in various sacred graves in Muhambwe, notably that at Buhoro, where Ruhaga, the father of the present chief, is buried. The real reason for this is, that of the last three chiefs of Muhambwe, all of whom had a short reign, two died of disease, one in Tabora and one in Ujiji, while the third, who died at Buhoro, could not be taken to Mwariye as the mountain was at the time of his death in the hands of his blood relations, the Wa-yungu, with whom he was at war.

The general view of Mu-Shumbuka is extremely picturesque. The rock standing as it does on the edge of a saucer-shaped clearing in the forest, surrounded by fine trees, looks like a great sentinel and forms a fitting setting for the tomb of the great ones of the land.

I was informed that Mihanga had taken one other European (Bwana Mbau — a German in search of limestone) to view the spot, but that he had not been permitted to approach near and had never seen the entrance of the cave, although he viewed the rock from a distance.

My visit terminated by a display of native diplomacy, Mihanga, addressing nobody in particular, said with undoubted meaning, "I, being of the Wa-gwirwa, may not go and beg cattle from my chief, neither may I leave the mountain, consequently I am a poor man and have no cattle. If this white man is the chief of this district, and I have no doubt whatever that he is, surely he can give me an ox."

FOOTNOTE by G. N. Brokensha

It is now possible to reach Mwaliye and return the same day to Kifura settlement, as there is a motorable track to within eight miles of Mwaliye. Following Sir Edmund Teale's advice, (Tanganyika Notes and Records No. 31) we were provided with a lamp and we penetrated the narrow cave up to the end. The width varies from 2' to 3½' the height from 1½' at the opening to 8' at the end. The cave is about 60' deep.

Our guide was a son by adoption of the last guardian who died some years ago, before 1933. He willingly guided us to Mwaliye, but on approaching the place he became anxious and said we should not enter; no one was to enter without the permission of Mwaliye, the spirit. (There are various legends of people being eaten by lions, or being shut up in the cave, or just dying suddenly, through disregarding Mwaliye). However, eventually he agreed that we could go in, and after some time he followed us himself.

There was no sign of any body, nor indeed any indication of a platform. There were signs that many people had visited Mwaliye recently, as a small tree, at the entrance to the cave, was adorned with about twenty grass head-rings such as are used to carry pots of beer. People go there to invoke Mwaliye's aid, and later they return, if their request has been granted, and drink beer and also, preferably, slaughter a sheep.

Right on top of the great rock of Mwaliye stands a "Bamba" tree. It is inaccessible, but when leaves and twigs are blown down, these are collected and used by the **Abavuratl** (rain-makers) to stop rain; it is believed that no rain ever falls on this tree.

SOME PRELIMINARY OBSERVATIONS ON MEDIEVAL MOSQUES NEAR DAR ES SALAAM

By G. S. P. Freeman-Grenville

There has so far been no full investigation of the mosques of the East African coast, and therefore here I confine myself to certain broad questions and to the possibility now evident that discoveries have yet to be made.

In the early months of this year I was able to visit five mosques in Bagamoyo and four in the vicinity of Dar es Salaam which, together with a ruined building at Sadani, which may later prove to be a mosque, belong to the early medieval period. For although the greater part of the buildings as they now are belong to comparatively recent times, their mihrabs (prayer niches) ante-date the mihrab of the Great Mosque of Kilwa Kisiwani, and are thus among the earliest monuments of Tanganyika. Before discussing these buildings, we must first consider what is already known.

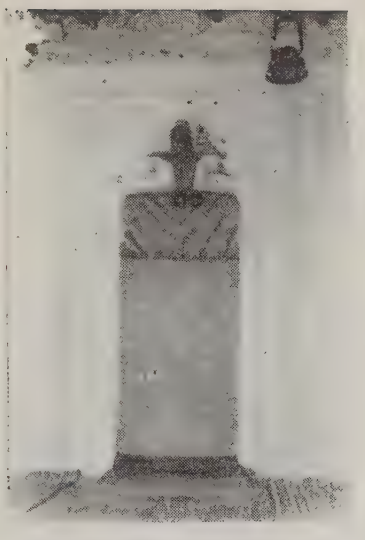
I

It is only possible to date two mosques in East Africa with precision, and it is fortunate that they are of markedly distinct types. The earlier is at Kizimkazi on Zanzibar Island, where a Kufic inscription inset into the mihrab records the construction of the mosque in A.H. 500 (A.D.1106-7). A second inscription, in a different script, gives the date of the restoration of the mosque in A.D. 1770/1, when the greater part of the building assumed its present appearance. But the mihrab of this mosque is unquestionably early twelfth century.

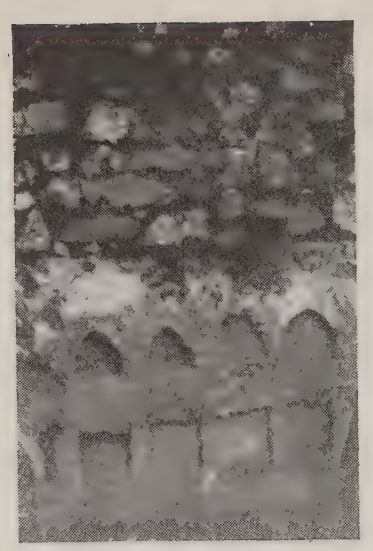
It is clear that at this period a distinctive style of Muslim architecture already existed in East Africa. The arch of the mihrab is trefoil, and cut from a single block, supported by a series of pilasters. Within the mihrab are a series of highly stylised local decorations.

This mihrab has long been thought to be of a unique kind, but in this article it will be shown that this is not so. For no trefoil or other poly-lobed arches occur in medieval mihrabs throughout the Middle East: indeed the only trefoil or poly-lobed arches of similar date occur in Spain and the opposite coast.

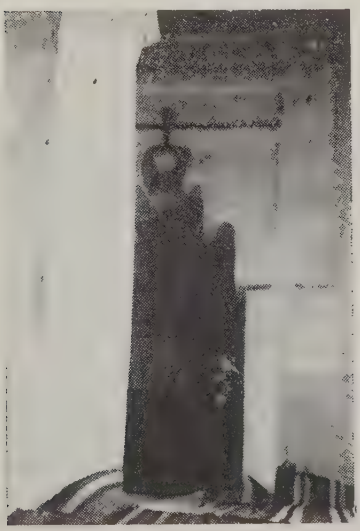
We need not pause to attempt to trace a Spanish *parente* for this mihrab, for there is no known Middle Eastern or Spanish prototype of the form of the Kufic script used for the inscription. Its prototype, Flury points out, is to be found on the tower of Radkan, on the Caspian Sea, dated A.H.411 (A.D. 1020/21). (1) It is more likely then, since the areas from which Arab immigrants have come are well known, that the links with the Caspian of the Kizimkazi mihrab are to be found in the Persian Gulf or in South Arabia. The early mosques of these areas have never been studied, and it is at present impossible to pursue the matter.



BAGAMOYO — Mihrab of the Mankesani mosque.



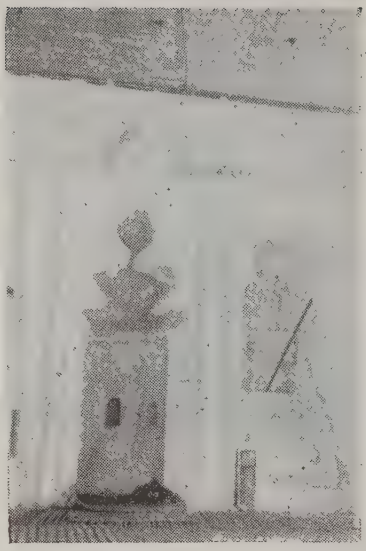
MSASANI — The fragment of the medieval mihrab under modern courses of stone.



MJIMWEMA — The mihrab, partly obscured, on the left, by the central pillar.

BAGAMOYO — Friday mosque — mihrab and pulpit.

BAGAMOYO—Mihrab on the baraza of the Ibadhi Mosque.



BAGAMOYO — Mihrab and pulpit of the Memani mosque.

KAULI — A typical mihrab of period II.

MBOAMAJI — Mihrab, pulpit, and one of the arches.

II

The second date is that of the restoration of the Great Mosque of Kilwa Kisiwani. (2). The Chronicle of Kilwa relates that it fell into such disrepair in the reign of the Sultan Abu al-Mudhaffar Hasan al-Muwahib that the people had to worship in tents. This is the Sultan whom Ibn Batuta visited in 1332. He records that he attended the Friday Prayer in the mosque, and we may therefore suppose that it fell into disrepair somewhat afterwards. (3)

But, the Chronicle continues, it was not until the reign of Sultan Suleiman (c.1431 to c.1452) that the restoration took place, and that then "the work could not be completed without divine assistance. The original columns had been of polished stone, but the workmen were incapable of restoring them; so the new columns had to be made of wood . . . "

There is no mention of the mihrab, but when Dorman examined the Great Mosque in 1938, he found clear evidence of the complete reconstruction of the northern, or *qiblah,* end of the mosque. It was plain that this was the reconstruction referred to in the Chronicle and that the mihrab is of this period.

The Chronicle shows that in the first quarter of the 15th century there were no longer masons at Kilwa capable of the work of the period of the original building of the mosque. Doubtless it was lack of skilled workmen which, among other causes, delayed the restoration. But even if the new pillars were of wood, the new mihrab was of stone, and in a new style. We may describe this style for convenience as that of Period II, that of Period I being that of Kizimkazi.

The mihrab of the Great Mosque of Kilwa has an obtuse and fluted round arch supported on each side by a pilaster. This arch frames a semi-dome, also fluted, and surmounts a lower course reminiscent of, but not the same as, Period I. The whole is set in a rectangular frame. For the most part rough stone and plaster is used, cut stone being reduced to a minimum. The cut stone is cut in very small sections, whereas in Period I large blocks were used.

So, indeed, in Period I, there were masons with a high degree of skill who could be entrusted with a large, single and costly block of stone which could be ruined by a single error. In Period II we cannot speak of masons in the same sense: they were not truly skilled craftsmen.

In the decoration of both periods, however, there are common features, and in particular we may note the raising of the floor level of the mihrab above the floor level of the mosque.

Examples of mihrabs of Period II are numerous. We need not, however, suppose the mihrab of the Great Mosque to be their common ancestor. The much more elaborate mihrab of the principal mosque of Songo Mnara belongs to this period, as do the other smaller and plainer mihrabs in this group of sites. The two mosques at Kauli, the ruined mosque belond the principal group of tombs at Kunduchi, two mosques at Mboamaji now in ruins, the mosque at Mbweni and that at Chole in the Mafia Islands, are all of this period (4). It is very likely that this list might be expanded.

In Kenya, the Great Mosque of Gedi and the three other mosques there, and the mosque at Kilepwa recently excavated (as also Gedi) by Mr. James Kirkman, belong to this style and age. Mr. Kirkman's finds of native and imported pottery on these sites confirm that these mosques were originally constructed during the first half of the 15th century. (5). But we do not know how the style arose or whence it originated.

III

Hitherto no mosques of a style comparable with Kizimkazi have been recorded. Five mosques in Bagamoyo, and four in the vicinity of Dar es Salaam, however, present such a remarkable affinity of style and construction in their mihrabs with Kizimkazi, that there need be no doubt of their common date. The mosques in Bagamoyo are the Friday Mosque and the Mankesani, Baluchi, Ibadhi and Memani mosques: those near Dar es Salaam are at Magagoni (6), Mjimwema, Mboamaji (7), and Msasani. All of them, with the exception of Msasani, are still in use.

It is plain that all these mosques have been frequently restored, and it would be wrong to assume that much of the buildings as they can be seen today is medieval. In most cases it is the mihrab which alone remains. Of these the most important for our purpose is the fragment of the medieval mihrab in the partly reconstructed mosque near the beach at Msasani, for it alone is patent of an independent dating.

Here only a small portion of the rear wall of the mihrab remains. It is decorated with a series of arched recesses surmounting a series of square recesses similar to those of the Friday mosque in Bagamoyo, whose dating it thus confirms. In quite recent times an attempt was made to reconstruct this mosque wholesale, a work which for one reason or another was never completed. Thus today the four walls, the pillars and the floor are of modern concrete: there is no roof. Of the earlier building only the back of the mihrab, of a single block of stone, survives. But when the reconstruction was suspended, a small area within the mihrab and a small room to the right were left unfloored.

Here in April I found a fragment of Persian or Mesopotamian pottery which can be dated with certainty as of the fourteenth century. A fragment of green glassware found at the same time proves to be Egyptian and of the late 13th or early 14th century. It is part of a mosque lamp of a familiar kind similar to the celebrated lamps of the Sultan Hasan mosque in Cairo, which are dated 1295. Of these lamps numerous examples may be seen in the Arab Museum in Cairo, and one is on view in the Victoria and Albert Museum. The fragments at Msasani are thus of crucial importance, for they confirm the early dating. They may be seen in the King George V Memorial Museum, Dar es Salaam.

From this we may pass to the Friday Mosque at Bagamoyo. The relationship of its mihrab with Kizimkazi is evident from its character, although in lieu of a trefoil arch it has a cinquefoil. There is no firm tradition of its age, but one of my informants stated that he though it, and the other four mosques under discussion, about ninety years old. This is plainly incorrect, but is probably a reminiscence of the thorough recon-

struction which it has certainly undergone. The arcades and doorways are certainly not of the same epoch as the mihrab. They may be placed provisionally in the 17th or 18th century, the epoch of the interesting little cemetedy outside towards the sea. Further restoration would seem to have taken place in the last century or early in this, when the present disfiguring *bati* roof was added.

Further evidence of restoration occurs in the Baluchi mosque, with its elegant 17th century door: both it and the Ibaadhi mosque (which is raised an astonishing height above ground level) have mihrabs of Period I. The second mihrab on the *baraza* of the Ibaadhi mosque is more likely to be 17th century. It is related in style to the arcade at Mboamaji of which we shall speak later.

On the Mankesani mosque we should perhaps suspend judgement for the time being. It seems a distortion of Period I, yet it has nothing in common with Period II. The most elegant of the Bagamoyo mosques, the Memani mosque adjacent to the market, has a mihrab which is certainly of Period I. Here again there is evidence of reconstruction and restoration: the graceful minaret would seem to be of the era of the erection of the arcades of the Friday mosque.

To the era of these restorations a clue is provided not only by the later inscription at Kizimkazi, 1770/1, but also by the discovery, by Mr. Graham Hunter, of the King George V Memorial Museum, of a carved stone over the door of the mosque at Mboamaji which bears the date A. H. 1017, that is, A.D. 1608/9. (8).

At Mboamaji, while the mihrab is of Period I, the pulpit arch and its decoration, particularly in the lower portion, is of a kind frequently associated on tombs with the form of decoration on the block of carved stone already mentioned. A damaged tomb at Kunduchi has not only decoration of this type but also, in miniature, an example of an arch similar to the magnificent arches of the Mboamaji mosque. This discovery is thus of great importance, for it not only enables us to place these features in the seventeenth century, but also to date a considerable number of tombs on which decorative features of this type occur.

The Mjimwema mosque has also a mihrab of Period I. But the walls and roof of the mosque, and also the adjacent house, which I do not propose to discuss here, are most probably of Period II. This mosque was again restored in the 17th century, when a plate of Ming export ware was plastered into the ablutions. The roof of this mosque is of interest since it is similar in construction to the collapsed roof of one of the mosques at Kauli.

IV

All these mosques raise many difficult questions which it would be unwise to attempt to answer until the possibility of the discovery of more mosques dating from Period I has been excluded. I therefore shall do no more than mention some of them here.

Thus at Mjimwema the mosque is supported by a single column placed in the centre of the building, inhabiting a direct view of the mihrab from the back. Such a feature also occurs in two mosques at Gedi, where pillars are placed on the central axis of each mosque. A ruined building at Sadani, not far from what remains of the German boma, presents a similar feature: although it is orientated correctly for a mosque, excavation would be necessary to determine that it has been one, for there is but little left above ground. (9).

A feature so far unparalleled in Muslim architecture occurs in the Friday mosque at Bagamoyo and in a modified form at Mboamaji. In the first the pulpit is entered by a staircase within the mihrab: in the second the staircase is similarly concealed, but separate from the mihrab: in both places the preacher speaks over a grille. The normal arrangement of a Muslim pulpit consists of a series of steps which project into the mosque from the qiblah wall towards the congregation, side walls sometimes being added. The preacher stands on the step immediately below the topmost. At present there is no evidence to account for this feature.

The pulpit of the Memani mosque in Bagamoyo also presents an unusual feature. Otherwise of a normal type, it is recessed into the wall. This recess is balanced on the left of the mihrab by a recessed bookcase, again unparalleled, the architect having sought to produce — and not unsuccessfully — an optical illusion of symmetry.

Finally there is the problem of the roofs. We have already noted ones of an early type, probably Period II, at Kauli and at Mjimwema. For the rest, it would seem most likely that in the earlier period they were all unroofed: in Egypt roofs were not put on mosques until the later part of the 14th century. Like the courtyard in which the Prophet first led public prayers, they were completely open. This would explain the necessity, when later the mosques of Period I were roofed, of constructing new walls. *Sakafu* is very heavy, and stronger walls would be needed to carry the weight and thrust of a roof than merely to secure privacy. But it will be necessary to excavate the foundations of these mosques before we can say more on this. At most it is a strong likelihood, and explains why it was generally necessary to reconstruct the whole of the mosque other than the mihrab.

V

That such remains of early medieval mosques should be confined to a small area alone seems inherently unlikely. It must be admitted that at present knowledge is fragmentary and incomplete. And these mosques are often hard to find. The writer would never have noticed the mosque of Magagoni had he not passed at the time of the Evening Prayer: the graceful early medieval mihrab was illuminated by an oil lamp and could be seen from the road. With its poor *makuti* roof it looked much like any other building. It may be possible to treat these questions more fully when the possibility of further discovery has been exhausted. The monuments so far identified of the epoch of the Kizimkazi mosque bear witness to the elegance, the taste and the wealth of the early Islamic period in Tanganyika.

NOTES.

(1) S. Flury, The Kufic Inscription of the Kisimkazi Mosque, Zanzibar, 500 H. (A.D. 1107), in the Journal of the Royal Asiatic Society, 1922, with six plates. See also W. H. Ingrams, Zanzibar, 1933, P.133. Patricolo's reading of the inscription given there is inaccurate. There is an excellent photograph of the mihrab in the Zanzibar Guide, Government Printer, Zanzibar, 1952, p. 37.

(2) See M. H. Dorman, The Kilwa Civilisation and the Kilwa Ruins, T.N.R., Vol. 6, 1938: J. P. Moffett and A. G. Mathews (*sic*), Tanganyika's First Colonists — New Findings at Kilwa, East African Annual, 1951-52, which has numerous illustrations: Sir John Gray, A History of Kilwa, T.N.R. Vols. 30 and 31, 1950 and 1951. The Arabic text of the Chronicle of Kilwa was published by A. S. Strong in J.R.A.S. 1895; his readings of the ms. are not always correct. I must also express my gratitude to Dr. A. G. Mathew, F.S.A., for allowing me to see his report to the Tanganyika Government on his survey of Songo Mnara and other sites near Kilwa in 1951.

(3) Arabic text with French translation (sometimes inaccurate) in C. Défrémery and B. R. Sanguinetti, Les Voyages d'Ibn Batoutah, 4 vols., Paris, 1833. H. A. R. Gibb, Travels of Ibn Batuta, 1929, is an abbreviation of the text and not a full translation. The Chronicle of Kilwa was publish in 1895, but the problem it raises is not mentioned by Gibb, op.cit. For Ibn Batuta (Vol. II, pp. 192-5) has always been taken to mean that Kilwa was at this period built wholly of wood. If this were true, the account of the dilapidation and rebuilding of the Great Mosque in the Arab Chronicle would be nonsensical. But Ibn Batuta says himself that the roofs of the Kilwa houses were *saqaf* — a word familiar in Swahili as *sakafu,* a ceiling of rubble and cement laid over mangrove poles, still common on the coast. In his account of Mogadishu, op. cit. II, p. 189, he uses the same word in contradistinction to wood, so we can be sure that the Kilwa houses had stone-cement roofs. Such a roof could hardly be placed on top of a wooden house, and we may therefore conclude the passage to be corrupt. By a simple change in the reading — *b'il Khashb* — with wood — to *b'il hasb* — with elegance, we may conclude that Kilwa was built of stone when Ibn Batuta visited it. This makes the whole passage more logical, for a man who had travelled widely and seen many far more important cities, would hardly have described Kilwa as — *min ahsan al-midun* — "one of the fairest of cities", had it been a mere wooden shanty town. I hope later to write a detailed account of his voyage along the coast.

(4) Songo Mnara — see note (2). R. F. Stowell, Notes on some ruins at Tongoni, near Tanga, T. N. R. Vol. IV. For Chole, see N. King, Mafia, Geog. Journal, Vol. 50. For Kauli, Kunduchi, Mboamaji and Mbweni I depend on my own observations.

(5) Antiquaries Journal, Vol. XXXII, 1952, The Excavations at Kilepwa. I understand that the Oxford University Press is to publish Mr. Kirkman's excavation of Gedi this autumn.

(6) The Magagoni mosque lies on the seaward side of the road in the second village beyond the Dar es Salaam ferry.

(7) I must acknowledge my debt to Mr. Graham Hunter, who kindly photographed the mosques of Mboamaji and Magagoni for me, and provided me with many details of information. The Mboamaji site, with its three mosques, ruined house, cemeteries and rubbish dumps containing many sherds of pottery, merits a full investigation.

(8) Sir W. Haig, Comparative Tables of Muhammedhan and Christian Dates, 1932, has been used throughout.

(9) It is curious that the only other examples of this peculiar ground plan occur in French churches: the Church of the Augustinian Canons (now the Musée des Beaux-Arts) at Toulouse, Toulouse Cathedral, and three Dominican churches at Toulouse, Agen and Paris. I am unable to agree with W. Lethaby: Medieval Art, revised by D. Talbot Rice, 1949, p. 128, that "nothing better could be contrived for assembling of big congregations before a preacher."

THE MAGICAL IMPORTANCE OF PANGOLINS AMONG THE BASUKUMA

By A. C. A. Wright

In August, 1952 I was touring in Kimali Meatu Chiefdom, Maswa District of Busukuma, and on visiting the Chief (*ntemi*) saw a pangolin, which had been impaled on a pole immediately opposite the main entrance to the enclosure. The flesh had already begun to rot and the scales were coming loose. I made some inquiries about the reason for this spectacle, which are as follows :—

The pangolin is known by the Basukuma as *Ndelebalya, Ng'akakubonwa* or *Mhulugaga.* The meaning of these names is "the thing which they (the other people) eat," "the wonderful thing to be seen," "rotting cherries." The first two names are easily understood; but for the third name I have still to find a reasonable explanation. (*Mhulu* is a tree with cherry like fruit and *kugaga* is to rot).

The particular pangolin, which was of the arboreal, not terrestial species, was first seen in Mwamindo parish by a small boy, who ran away and told his elder brothers that he had seen a strange creature. They came along captured it and took it home. Their father was delighted and killed a goat in honour of the event. The next day he took it to the headman of the parish, who killed another goat in its honour and escorted the party the following day to the Chief's kraal. When they arrived, there was rejoicing and the Chief's head wife (*mugoli w'igembe*) smeared the animal all over with butter and sorghum flour. The Chief killed two large goats and held a feast for the visitors and the members of his kraal. He gave the householder who had brought the pangolin a present of Shs. 6/-. After this the pangolin was forcibly unwound, and stretched out straight. (It took ten people to do this). A sharp stake was then driven up its anus through its body and it was mounted in the manner described.

This is the traditional manner of treating pangolins wherever they are found in Sukuma country, though occasionally the captured animal, after smearing with butter and flour, may be released on the advice of the fortune-teller. The impaling was the traditional treatment accorded by the Basukuma in the past to captured enemies; but it must not be thought that for this reason the pangolin is regarded as an enemy. On the contrary it is regarded as a luck-bringer of a high degree of importance and great reverence is paid to it. As the scales (*igula* **pl.** *magula*) rot off, they are given away by the Chief to visitors to his kraal in exchange for presents made; the market value of each scale being about a shilling. (It will be noted that the Chief does not lose by rash generosity to the original finder). These scales if worn round the neck or leg are considered as a sovereign defence against the bite of snakes and other wild beasts. They are also tied by old men to their limbs during rheumatic attacks, and around the body of young children who suffer from swollen spleen. It is also an important "activator" (*shingira*) in the fertility medicine, which is mixed with the seed for planting at the beginning of the year. The decayed body and bones of the pangolin are finally burnt and the ashes

carefully preserved in a pot in the Chief's house. Small quantities of this ash may be released from time to time to peasants suffering from the attacks of lions. A little of this medicine burnt in the kraal fire is believed to be a most powerful deterrent to lions.

I have heard similar accounts of the importance of pangolin scales and flesh as medicine in several other parts of Busukuma and have little doubt of the general accuracy of this account; but, since a large part of Busukuma is in the treeless condition so aptly termed by Mr. N. V. Rounce "the cultivation steppe", the chances of the average peasant meeting with one of these creatures is extremely remote. It is only on the bush edges, where mankind is still but an infrequent visitor, that the pangolins find it possible to survive. Hence the very high value put on the scales which pass from hand to hand at a mounting value.

Mr. R. E. S. Tanner informs me that something of the same attitude towards the pangolin obtains among the tribes of the Southern Province. I quote from his notes :—

"The Wamatumbi regard the pangolin as a messenger of God and on one being killed usually hold a feast. Elders of Pungatini stated that with them the animal is not killed, but is set free after being used for soothsaying. The Wayao also use it for divination regarding the future success of their crops. In the Mitomoni-Mahavale area the animal after ritual use is allowed to go free. A scale burnt in a watchfire at night is reported to keep away lions and all dangerous animals. In Ki-Nyasa the name is *Ngaka,* in ki-Yao *Lingaka.*"

Thus with local variations, it may be seen that cult and dialectical root ngaka are practically the same over a wide area. Whence, it may asked, comes this association of ideas between this rare arboreal creature of the forsts and the fertility of the cultivated lands and resistance to danger? Perhaps the element of luck and rarity may be important, as well as the fact that the flesh is of a porklike delicacy. The idea of warding off danger may well be conveyed by the impervious scales. There is another alternative that its ritual value may possibly be an introduction from external cultural sources.

In an article in the *Illustrated London News* for October, 1952, entitled "An obscure story of Pangolins", Maurice Burton, D.Sc., after describing the custom of "anting" by pangolins, remarks "All pangolins are hunted for their flesh and the two smaller Asiatic species, the Chinese and Malayan, were also much sought after for another reason, that their scales were highly valued by the Chinese for their supposed medicinal properties." It may be that in the widely accepted association among Bantu tribesmen in Tanganyika of pangolins with fertility magic and medicine there is an echo of those early Indonesian travellers, who have left the record of their passage in the sewn plank canoe, the cultivated banana and edible arum, the beer-pipe, the flat-bar zither, the "stepped" drum and the xylophone — all of which are probable Indonesian introductions to East Africa, still used by the resident populations.

GIANT FISH IN LAKE TANGANYIKA

By G. W. Hatchell

All along the shores of Lake Tanganyika there are innumerable tales told of monster fish which attack and devour fishermen and their canoes. At Kibwezi I was once told of a 20 paddle canoe which while crossing the Lake was swallowed whole, with all its passengers by one such monster. On Lake Nyasa too, such stories are common and it is related that on one occasion a large fish made off with the Rotator of the Patent log of the Government steamer "Gwendoline."

In his note on Fishing on Lake Tanganyika which appeared in No. 7 of Tanganyika Notes and Records, Commander Lane remarks that "large fish are reputed by natives to attack canoes."

There seems to be some foundation for such stories for during the month of August, 1925 I was travelling from Kala to Kasanga at the South end of the Lake by canoe. The canoe was propelled by ten paddlers and was sufficiently large to accommodate me, my safari loads, three domestics, a tax clerk and an office messenger and there was a native coxswain at the tiller. We left Kala at dawn and by 10 a.m. were about five miles north of Kasanga and two or three miles from the shore in deep water. The day was fine with a light northerly breeze which did no more than ripple the water. I was seated in a camp chair facing forward.

We were aroused by shouts from the bow paddler on the port side that his paddle was being attacked by a fish and we could see that the paddle was being pulled from his grasp when it was released. I leant over the side and was able to see, about 3 feet below the surface, the shadowy form of a large fish which was slowly moving afoot. The fish appeared to be between four and five feet long and of considerable girth. Its colour was a uniform dull grey.

The crew stopped paddling and an excited discussion ensued the paddler maintaining that it was a fish and no croccodile which had seized his paddle. At this point there arose an outcry from the coxswain who declared that a fish had caught hold of the rudder and we could see that as he tried to move the tiller he encountered resistance. At the same time I noticed that the canoe was "Juddering" as though it had been beached in a slight swell. One of the servants siezed a spear and with it jabbed at the fish which then released its hold and made off. He said that he had seen it quite plainly and that it was about five feet long, very thick and of a grey colour with a rather blunt head.

We hung about for some time in the hopes that it would return so that we might have opportunity to see it more closely and possibly to shoot it but it did not reappear.

On arrival at Kasanga I met the late Colonel Charles Gray who told me that he had heard of such incidents as this both in the Kasanga area and in other parts of the lake. Colonel Gray had been living in his yacht on the Lake for some years and was making a study of the fish.

In January, 1926 he wrote to me : "It seems pretty clear that the fish which does this (attacks canoes) is the Perch; Lates Anquatiphors and that it is the Perch which is known at the south end of the Lake as the Chimizi which when it is smaller is known to the Kasanga people as the Pamba. Moore who did the fish on the Lake in 1898 and had a similar experience says it is the Lates Microlipis but I think he is wrong. I send you an extract from the Century Magazine of April, 1897 which contains extracts from the Journal of E. J. Glave."

The extract from Galve's journal which is dated Kinyamkolo 16th October, 1894 reads : "This morning we had a strange experience. Several large fish over four feet long and very thick like salmon came about our slow moving craft and grappled vigorously with the paddles show no fear. Whether we were considered as an enemy in their waters or whether they looked upon us as food I do not know . . . "

The location of Kinyamkolo is uncertain but it is probably near Kasawa at the entrance of Cameron Bay which is opposite Kasanga for earlier, Glave mentions Sumba which is in the same direction.

It seems most probable that Colonel Gray kept detailed records of the fish he encountered but so far as I know these have never been published and it is to be hoped that some day they will come to light and that his executors will see fit to publish them. Col. Gray lost his life while in pursuit of a buffaloe in the vicinity of Karema.

REVIEWS

WILLOW — HERBS AND WATER CALTROP

Two further families of the Flora of Tropical East Africa Onagraceae, Willow-herbs and Trapaceae. Water Caltrop have just been published by The Crown Agents for the Colonies, the former price Shs. 2/-, the latter 8 pence in the U.K.

They have both been written by Mr. J. P. M. Brenan, a botanist on the staff of the Royal Botanic Gardens, Kew.

The part Onagraceae contains 23 pages and deals with three genera, *Epilobium* with four species, *Jussiaea* eight species and *Fuchsia arborescens* Sims an exotic much cultivated in Kenya and recorded as a doubtful garden escape in the West Usambara mountains of Tanganyika.

Of the four species of Willow-herb, *Epilobium* three of them are found in mountainous regions of East Africa, one of them *E. hirsutum L.* with the var. *villosissimum* Koch. having the most wide distribution being found in Europe and Asia and recorded as naturalized in Canada and the United States. The fourth species unnamed is confined to the upland grassland areas of Njombe and Iringa Districts of Tanganyika and has not been named specifically owing to the very inadequate herbarium material. The four species are illustrated in one figure by M.R., consisting of line drawings of the ovary indumentum, stigmas, petals and leaves, the latter natural size and a key is provided to the species.

The genus *Jussiaea* now contains that of *Ludwigia* as well; hitherto it had been kept separate as it had only four stamens to its flower in comparison to Jussiaea's eight.

The eight species are keyed into four groups, those that have pluriseriate, free narrow-raphed or broad raphed seeds, and those with uniseriate partially enclosed but free or wholly surrounded and firmly attached to its pieces of endocarp seeds. So a lens and fruits will be essential adjuncts to naming any *Jussiaea.*

This genus of the family is very polymorphic and two species *J. stenorrophe* and *J. suffruticosa* are further divided into intraspecific variants. The genus as a whole is widespread in the tropics and warmer regions of the Old and New Words and the African species hitherto have not been easy to name.

Jussiaea stenorrophe var. *stenorrophe* and *J. abyssinica* are illustrated by two full plate line drawings, the first by E.M.S., the second by D.R.T. each containing complete analytical drawings of the two species.

The family Trapaceae only contains one genus *Trapa,* Water Caltrop and this part of the flora consists of four pages with *T. natans* L. var.

nfricana Brenan and var. *bispinosa* (Roxb.) Makino, the former found in Lake Victoria Nyanza, the latter in Lake Tanganyika with a distribution to Portuguese Guinea, Anglo-Egyptian Sudan, Portuguese East Africa, Nyasaland, Angola and from India to China and Japan. The full plate line drawing by E.M.S. is very good and should leave no one in doubt should he find this very interesting aquatic plant in some lake or pond or slow flowing river.

Mr. Brenan is to be congratulated on his work on both families for the Flora of Tropical East Africa since the Onagraceae was by no means an easy piece of taxonomic botany.

P.J.G.

POSITIONAL SUCCESSION AMONG THE WAMBUGWE

By Robert F. Gray

Africa Journal of the African Institute Vol. XXIII No. 3.
July-1953 p. 233-243

This article is a 10-page essay on an interesting and hitherto unrecorded aspect of social organisation of a little known tribe, the Mbugwe. These folk are a matrilineal Bantu tribe, familiar to travellers along the Great North Road between Arusha and Babati. Their most striking feature is their habitat, the alkaline flats to the south of Lake Manyara where their square flat-roofed houses are to be seen dotted over the grassless plain, whilst the neatly planted sorghum *shambas* lie to the East of the road. Another striking feature, common to both male and female, are the slashes to be seen one on either cheek inflicted on every Mbugwe during childhood.

The Mbugwe are a small Bantu island isolated in the midst of non-Bantu neighbours; to the North and East lie the Masai, to the West the Iraqw (Mbulu) and to the South the Gorowa (Fiome). Their nearest Bantu neighbours geographically, linguistically, and culturally, are the Rangi of Kondoa district.

The institution dealt with in this article is best described in Dr. Gray's own words; his opening paragraph reads :—

> "Among the Wambugwe of Tanganyika, when a person dies a member of the same lineage is designated to take his place in the kinship structure. The substitute assumes most of the kinship relations of the dead person and also, in the case of a married person, his affinal relations. This well-integrated institution has the function of restoring to surviving relatives the loss that attends death; parents have a lost child replaced, children a lost parent, and a married person a lost spouse. So far as I know, this institution has not been previously reported in such organised form for an African society or from elsewhere in the world; though most of its features, taken separately, are found i nother societies. These include rules for the inheritance of property, for succession to social position, and for preferential marriage of widows; principles of guardianship for orphans; and adoption customs. All of these are organised in the single institution described in this paper."

The details of this institution are perhaps of greater appeal to the sociologist than to the general reader, but throughout interesting aspects of Mbugwe life reveal themselves. Light is thrown on certain features of tribal structure, on the burial of the dead, and the consequent mourning, on monogamy (an institution unique to the Mbugwe in this part of the world), the matrilineal descent and patrilocal marriage system, and on the inheritance and ownership of wealth by women.

In the course of a short article, concentrating on a specific aspect of a culture, it is difficult to keep the whole picture in perspective and in this respect I would amplify Dr. Gray's brief reference to one or two features of Mbugwe life. In the matter of food production, Dr. Gray states that famines are not infrequent because of the scanty and invariable rainfall. Being acquainted with the area for nearly 20 years, I can state with certainty that the Iraqw in their neighbouring highland areas have more frequently sought assistance from the Mbugwe than the Mbugwe from the Iraqw. The reason for this doubtless lies in the fact that the Mbugwe have continued to concentrate on drought resistant sorghums and millets, whereas the Iraqw have misguidedly swung over to maize culture, unjustified in their environment.

Another small point is that the term "Paramount Chief" sounds rather grandiose for a ruler with jurisdiction over less than 2,000 adult males. Finally, reference to villages rather suggests a concentration of population greater than that found in Mbugwe. With certain exceptions, the picture throughout Northern Tanganyika is of the homesteads being scattered evenly throughout the cultivated area with no undue concentration of habitation in any one place. In certain exceptional cases, e.g., the Sonjo, one gets a concentration of houses for defensive reasons. The Mbugwe are unique in having the houses scattered throughout the grazing area with the cultivation concentrated elsewhere. The reason for this is that the Mbugwe as spearmen require an adequate "field of fire" when attacked by their fellow tribesmen or by their predatory neighbours, the Masai and the Tatog.

It would be of considerable administrative value, as well as of general interest, if the many interesting aspects of Mbugwe life touched on by Dr. Gray could be more fully fully described by him in some future papers, as one has reason to hope and suppose they will be. It would be of even greater value if similar work could be done amongst some of the larger tribes of the area; Dr. Gray, with his background of Mbugwe culture is obviously in an excellent position to get off with a "flying start" amongst the allied Rangi of Kondoa District, who number nearly 100,000 and who by virtue of population pressure and soil erosion, present more serious administrative problems than do the Mbugwe.

H.A.F.

CORRESPONDENCE
Tribal Calendars

Sir,

Tribal calendars such as those of which Mr. Baker speaks in his Note which appeared in No. 33 of this Journal are to be met with in other parts of the Territory and have been encountered in Mpimbue and Rungwa at the northern end of the Rukwa valley and in Utende which lies midway between Tabora and the Rukwa and about 90 miles east of Karema.

The divisions into which the year is divided seem to be governed by agricultural activities and are more properly seasons than months; moreover in Utende there are only ten of them. It might therefore be more correct to refer to them as seasons although the lunar month must come very much into the lives of these people. The names used by the Rukwa group differ from those in Utende but as this whole area, in years gone by, seems to have been the meeting place of waves of migrants from all four points of the compass this is not surprising.

The divisions are :—

RUNGWA

Wanbuwe which corresponds with early January.
Wandu
Kwizila
Ikula
Kakavu
Sonje Mkulu; the harvest
Sukamakesa
Katampepo
Kunguti
Mbasakiwili
Kuzumbe

MPIMBUE

Uwandu corresponds with the third week in January
Korongwe; the very late planting
Kasikimtwike; the final end of the planting
Ikula; the ripening
Kaswamangi; the early harvest (Kakaduu)
Sonje Mkulu; the main harvest (Sakamakesa)
Isenya; the storing of the grain
Kutunamalundi; the very early digging
Mbasakiwili; the early digging
Kazumbi; the digging
Wambuwe; the commencement of the planting

UTENDE

Kunguti corresponds with the middle of August
Songi wa Mti; the appearance of the green leaves on trees
Gungi wa Manguru; the earliest rains
Mbavu, Kalenga and *Isenga;* three periods of digging
Gukizagundi; the planting
Kasiki; the ripening
Kakwero; the whitening of the Mtama
Pimpiti; the harvest

Yours etc.,

Tanga. G. W. Hatchell.

RINDERPEST

Sir,

Hans Cory refers in Tanganyika Notes and Records No. 33, on Page 24, to "*Glossina* of all kinds which means sleeping sickness and rinderpest."

I do not think that tsetse are carriers of the rinderpest virus. Since the time which I was observing game for the Veterinary Department, from 1940 to 1942, the agent which carries the infection may have been discovered. I was engaged on observing from Morogoro to the Ruvuma on the track of animals dead of disease; these were easily distinguished from those killed and eaten by carnivors or shot because of their carcases rotting away and leaving unbroken bones. The vultures and hyenas did not touch the carcases — the local Africans do apparently sometimes.

At Muhinje Chini, north west of Liwale, where the last big herd of buffalo centred, their mortality was very high before roads opened in 1940 and Veterinary and Game Department officers came. The flies swarmed on shady trees which the local Africans said brought the disease. They were smallish blue-bottles and new flies to me.

Yours etc.,

Mohoro, Rufiji — R. de la B. Barker

Sir,

In Mr. Cory's most interesting paper on "People of the Lake Victoria Region" published in No. 33 of your Journal, there is a statement which I am sure is only a slip, in which he mentions that Birharamulo is "infested with *Glossina* of all kinds which means sleeping sickness and rinderpest."

Rinderpest of course has nothing to do with *Glossina* and is a virus disease whereas the disease of cattle transmitted by tsetse is due to a protosoan and is known as trypanosomiasis.

It may also be noted that it is not quite true to say that Biharamulo is infested with all kinds of *Glossina*. There are in fact four species in the district out of the twenty species known in Africa.

Yours etc.,

E. A. Tsetse and Trypanosomiasis Research and Reclamation Organisation, Nairobi. — J. Ford

THE TATOGA

Sir,

It was with great interest that I read in your publication No. 33 and No. 34 the excellent paper by Mr. G. McL. Wilson entitled "The Tatoga of Tanganyika." I have always regarded them as being the most interesting tribes in Tanganyika, with the Wasandawe of Kondoa Irangi a close second. Both these tribes were in the Kondoa Irangi district in 1918-1919 when I was Assistant Political Officer under F. J. Bagshawe, the District Political Officer, who took a great interest in the Barabaig people around Hanang Mountain.

In those early days, we called the tribe the "Wa-Mangati", following the German and Swahili custom, and it was Bagshawe who first discovered their real name of "Barabaig" which to me had always an intriguing and unforgettable sound.

It may be of interest to-day to Administrative Officers and others, for me to recall an incident which occurred in 1919. At that time news began to trickle into our Boma at Kondoa Irangi of certain murders by the Barabaig, especially of the Wa-Nyaturu tribe. At last we got some evidence of two such murders in a month and Bagshawe decided to take action and went on tour in the Hanang Mountain area. At a baraza there, he demanded the handing over by the tribe of the culprits or, in default, he would levy a collective fine of cattle on the tribe. This threat had a great effect and twelve young men were handed over to us for trial for the two murders.

These two trials were the most distressing cases in which I was ever concerned. The eight accused in the first case were young men of splendid appearance, physique and bold demeanour — tall and muscular. They were tried by a panel of three officers — Bagshawe, Captain Drury of the 2nd K.A.R., and myself and we were all affected favourably by their appearance.

They are charged with murdering a man of the Nyaturu tribe, his wife and two small children, who were trekking through their country in search of food. (It was during the great famine of 1919). It was a dastardly act but their defence was a notable one. It was a story of many years ago— perhaps 100 — when a large raiding party of Barabaig invaded the Tabora area and seized many cattle from the Wa-Nyamwezi. It had evidently been a highly successful raid but, unfortunateuy for the Barabaig warriors, they were stricken with an epidemic of small-pox on the way home with their captured herds. They rested for a time in the Wa-Nyaturu country and the local tribe, while pretending to assist the stricken men, seized their opportunity and set upon the Barabaig, killing most of them and taking possession of the cattle they had raided. Such was Africa in those days, but the few survivors of the raiding party, who returned to their country, aroused the anger of their tribe who swore that whenever they met any of the Wa-Nyaturu, their duty was to destroy them. If they failed to do so their fathers would turn in their graves. It was an obligation too strong to be denied.

They had sent warnings to the Wa-Nyaturu to keep away from their country or their fate would be upon their own heads. Alas for them, however, Pax Britannica had intervened and though there could not but be some sympathy for these fiine young men, who so openly confessed to their actions which they plainly thought were justifiable and worthy of praise, was strong. They were sentenced to death with a strong recommendation to mercy from the Court. The sentence of death was confirmed and it was left to me and the Police Officer to arrange this distasteful task.

The Barbaig men met their end like men and not one of them showed any sign of fear.

The Chief of the tribe and some elders and relatives were present at the execution.

Later, I got to know these Barabaig fairly well. I noted their long spears and their round shields of about 20 inches diameter. Their dancing also was striking, being mainly springing up in the air with the legs stiff and straight and their long spears held high above their heads. The Dinkas of the Upper Nile have a similar way of dancing and, as their physique is similar (and for many other reasons) it is clear that the Barabaig and their related tribes originated in the Nilot-Hamitic regions.

These settlements of the Barabaig must have formed the limit of the Nilotic invasion (or incursion) to the South as I know of no Nilots south of the main railway line.

Yours etc.,

Nyeri, Kenya. R. A. Thompson.

Sir,

To one who has known and worked with the Tatoga for several years, Mr. Gordon Wilson's paper in your July,1952 issue (No. 33) was of particular interest.

Your readers will recall that Mr. Wilson states that the Tatoga were living in the Mount Elgon region some two hundred and fifty years ago, and by implication he equates the Tatoga in their original home with the Sirikwa.

A reference to the Sirikwa which may not have come to Mr. Wilson's notice is to be found in H. E. Lambert's "The System of Land Tenure in the Kikuyu Land Unit", published in the series Communications from the School of African Studies, University of Cape Town, (New Series No. 22) February, 1950.

On p. 57, quoting from the evidence of Mr. Cardale Luck before the

Land Commission Mr. Lambert records :—

> "Arap Kasisi is of royal blood; I know him well, and can trace his pedigree back for hundreds and hundreds of years . . . (Arap Kasisi's tribe) have owned Elgon for thousands of years. . . . He belongs to the group called the Uasin Gishu Masai, who owned all this land. They are the ancient Serikwa (1), the bulk of whom passed down into the south."

Mr. Lambert's note at (1) reads as follows :—

> "1. The Serikwa have been held responsible for various holes in the ground in the Nyanza Province and elsewhere, which are in fact known as "Serikwa holes", and were apparently used as dwellings. But Mr. J. G. Hamilton Ross, in a memorandum submitted to the Land Commission writes : "At some remote period, probably not less than 200 years ago, a tribe about which very little indeed is known, called the Sirikwa, entered Elgeyo from the north and north-west. They built huts on stone plinths some of which remain to this day in various parts of Elgeyo proper. It has been suggested that they were responsible for the admirably engineered series of irrigation furrows in North Marakwet and Endo." If the Serikwa were capable of such engineering it would seem that the "Serikwa holes" should be attributed to another people, possibly of the Gumba type."

To this note I would add that there is little justification for equating one with such an obviously Nandi-Kipsigis name — Arap Kasisi — with the Uasin Gishu Masai.

Mr. Wilson traces the root meaning of Sirikwa to "old-fashioned" or "the way of ancestors." It seems apparent that anything inexplicable in the nature of proto-historic remnants has become associated with this name, just as further south anything from rock paintings to deep wells is attributed to the Wareno (Portuguese). It would thus be wrong to credit the ancestors of the Tatoga with stone building or elaborate water works.

There is also a grave danger in using place names to reconstruct history in an area where several tribes of a single language group have been crossing each others tracks. For instance, the name Endabess, which Mr. Wilson equates with hte Tatoga *endabesht,* might equally well be associated with the Masai word meaning "small flat topped acacia." Another example of such confusion occurs in the Mbulu District where the river Endabash, in the vicinity of which both Tatoga and Masai are known to have roamed, may take its name from Tatog where *enda* means river, *bash* unknown to me, or from Masai, where *en-dabash* means a bedstead.

Yours etc.,

Arusha. H. A. Fosbrooke.

OL DONYO L'ENGAI

Sir,

On page 55 of Tanganyika Notes and Records, No. 31, Mr. N. J. Guest describes his ascent of Ol Donyo L'Engai and lists the known European climbers of this mountain. The ten listed by Mr. Guest on page 55 and the two recorded in the Editor's Note on page 57, bring the total to twelve known ascents.

To bring this record up to date it may be noted that on 21st August, 1953, two officers of the Game Department, namely Mr. O. M. B. Milton, M.C. and the writer, reached the summit after a good climb. The approach was made on 20th August by Land Rover to about 4,700 feet, by following for some distance the dry river bed which flows past the western, southern and eastern foot of L'Engai. The climbers cut away from the river too soon and found that they had to cross a number of deep radial fissures which eventually barred further progress by car. Future climbers approaching the mountain by car would be well advised to follow the river bed as far as possible and aim for the small crater at the west foot of the mountain, which is the best starting point for the climb.

After leaving the car, loads were carried to 6,000 feet and camp established in one of the fissures on the west side of the mountain. An old cedar log found near the camp provided firewood to heat the evening meal and to keep the climbers warm. No living cedars were noted anywhere on the mountain. These had presumably been destroyed in a previous eruption. Several ravens (*Corvultur albicollis*) (Lath.) were noted in the evening flying from the direction of the Rift Wall to roost on the crags a short way below the summit of L'Engai; next morning they were seen heading back in the opposite direction.

The 21st August dawned cloudy but as the climbers made their way up the mountain, the clouds lifted above them. From the summit only the tops of mountains could be seen — Kibo and Meru to the south-east, Gelai and Ketumbeine to the east, and the near peaks of Kerimasi and Ela Nairobi — the rest of the country being obscured in a cloud of soda dust blown up from the dried up flood plain lying between Gelai and Ketumbeine.

No visible signs of escaping gasses were noted from the crater but there was a distinct smell of sulphur dioxide. During the hour spent on the summit numerous small falls of rock were heard. A very strong wind was blowing and what appeared to be a Pierid butterfly was blown past at high speed, seemingly out of control.

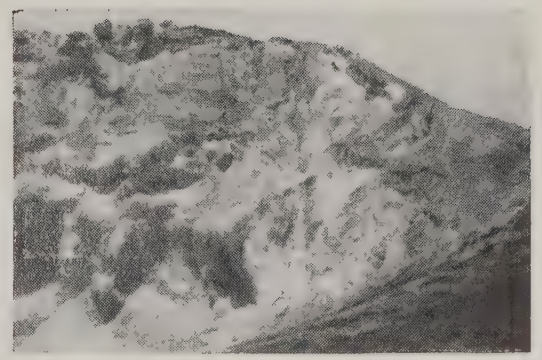
Three klipspringers (*Oreotragus oreotragus*) (Zimm.) were seen a few hundred feet below the summit and numerous rodent runs were noted in the vegetation which covered the outer wall of the mountain and the inner wall of the new crater. Round the foot of the mountain little game was seen other than oryx (*Oryx beisa callotis* Thomas), hartebeest (*Alcelaphus buselaphus cokii* Gunther), Grant's gazelle (*Gazella granti* Brooke) and zebra (*Equus burchellii Matschie*).

A number of specimens of the Masai Chat (*Oenanthe lugubris schalowi* (Fisch. and Reichw.)) was also seen in the area.

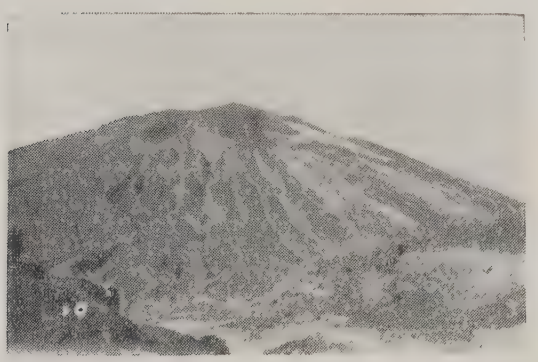
I enclose some snaps taken at the time of climb which give an idea of the nature of the terrain.

Yours etc.,

Game Department, Tengeru. G. H. Swynnerton



A panorama of the new water taken from the highest point on the mountain, on the ridge between the old and new craters.



A view of Ol Donyo L'Engai from the south-west. The ascent was made following the left sky-line.

BIRDS OF CULTIVATIONS AND TOWNSHIPS

Sir,

It may be useful to supplement the list of birds given by Mr. Fuggles-Couchman in Tanganyika Notes and Records (1953) No. 35 pp. 14-17 from which there are some noticeable ommissions. For instance in the Dar es Salaam district at any rate *Turtur chalcospilos* has a better claim to inclusion than *Turtur afer.*

The following list is compiled from material in the King George V Memorial Museum and some of my own. All the birds mentioned have a good claim to inclusion in a list of birds of cultivations and townships and none are rare.

GROUND BIRDS

Seed-eaters

Add : Emerald-spotted Ground-Dove — *Turtur chalcospilos*

BIRDS OF BUSHES AND SHRUBS

Insectivorous

Add : Grey-backed Glasseye — *Camaroptera brachyura*

Note : This replaces *Camaroptera brevicaudata* in the coastal districts.

Spotted Morning Warbler — *Cichladusa guttata*

BIRDS OF TALL GRASSES AND SHRUBS

Seed-eaters

Add : Red shouldered Whydah — *Urobrachya axillaris*

BIRDS OF TREES

Insectivorous

Add : Klaas' Cuckoo — *Chrysococcyx klaas*

Brown-hooded kingfisher — *Halcyon albiventris*

Madagascar Bee-eater — *Merops superciliosus superciliosus* (M)

Blue-cheeked Bee-eater — *Merops superciliosus persicus* (M)

Little spotted Woodpecker — *Campethera cailliautii*

Cardinal Woodpecker — *Dendropicos fuscescens*

Seed-eaters

Note : The Dar es Salaam population of Lovebirds is a hybrid *Agapornis personatax fischeri*

The following which Mr. Fuggles-Couchman has recorded as occurring elsewhere than Dar es Salaam have been recorded from Dar es Salaam.

Moustache Warbler — *Melocichla mentalis*

Violet Starling — *Cinnyricinclus leucogaster*

Lizard Buzzard — *Kaupifalco monogrammicus*

(I cannot resist mentioning a sight record of the Lizard Buzzard in Acacia Avenue, Dar es Salaam).

Red-faced Crombec — *Sylvietta whytii*

It is impossible to think of the birds of the Dar es Salaam district without recalling the Sombre Bulbul *Andropadus importunus,* which is so conspicuous vocally yet not easily seen. It is not of course a bird of cultivation or town, although I have heard it once or twice in the middle of Dar es Salaam, yet it seems to have a remarkable capacity for hanging on to the last vestiges of its normal bush habitat up to the very edge of cleared land.

Yours faithfully,
A. F. M.

THREE HUNDRED YEARS AGO IN TANGANYIKA

Sir,

In your article "One hundred yeare ago in Tanganyika" (T.N.R. No. 33) you state that the only European known to have penetrated beyond the East African coastlands before Rebmann was the Frenchman, Maizan. In March 1616, however, a Portuguese walked from the Sena and Tete settlements on the Zambezi, via Lake Nyasa to Kilwa.

By the beginning of the seventeenth century the Portuguese had established posts far up the Zambezi and were conducting trade between that region and the coast. The traveller, Gaspar Bocarro, reacted the Shire river (which he called Nhanha — i.e. Nyanja) ten days after crossing the Zambezi. A further eight days brought him to the Rovuma, and in another thirty four days he reached Kilwa. His journey was peaceful and apparently he encountered few difficulties anywhere along the route.

Bocarro's account of his journey, along with the records of Portuguese administration on the Zambezi, were lost until 1898 when they were discovered and translated by Dr. Theal. Bocarro's record is quoted as an appendix to R. N. Hall's *Prehistoric Rodesia;* there is also a summary and comment on the earlier part of the journey in T. Cullen Young's *Notes on the history of the Tumbuka-Kamanga Peoples* (Religious Tract Society London, 1932) pp. 17-20.

Yours etc.,

District Office, Songea. P. H. Gulliver

(See also Sir John Gray's account of Bocarro's Journey — T.N.R. No. 25— Ed.)

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SEA-FISHING ON THE TANGANYIKA COAST

By G. W. Hatchell, O.B.E.

The following notes have been compiled in the hope that they will be of some assistance to fishermen by indicating the conditions under which fish may be encountered and by providing information which will assist the fisherman to identify the fish when they have been caught.

The notes are based on material collected along the Northern coast of Tanganyika during the past fifteen years by one or two fishermen who have endeavoured to record something of the habits and movements of the fish. Unfortunately no similar information about the southern waters of Tanganyika is available to the present writer and it is hoped that information about the Lindi and Mikindani areas will be made available to the columns of *Tanganyika Notes and Records* in due course. There is fortunattely available the valuable record of conditions in Mafia waters by Mr. Piggott which appeared in No. 12 of the Journal under the title "Spoon fishing in the Mafia group" and with his permission this is being reprinted as a supplement to the present notes.

Thanks are due to Mr. Hugh Copley of the Game Department of Kenya for permission to make use of material from his "Game Fishes of Africa" and to Lieutenant-Commander Cole for permission to use some of the material contained in his notes on sea angling which appeared in No. 3 of this Journal. Thanks are due also to Mrs. Swan of Tanga for permission to reproduce the photographs of the Tunny and Marlin.

The Notes are largely devoted to those fish which are commonly caught with a rod and line while trolling, but attention has been given to some of the smaller fish which may be taken on a hand line from a stationary boat. No pretence to scientific accuracy is claimed for the sketches which are intended as a guide to the general appearance of the fish and the lay-out of its fins which will enable the fisherman to identify his catch.

Such information as is available suggests that "game fish" are moderately plentiful along the coast but that the numbers vary greatly from year to year. It can be said, however, with some certainty that the surface feeders are more likely to be encountered during the season of the North-East Monsoon from November to March, whereas most of the bottom feeders may be met with at any time.

Up to the present there have been too few fishermen with sufficient time at their disposal to give the Tanganyika waters a thorough try-out: more especially the deeper waters several miles off shore. It is not unduly optimistic to hope that if these waters could be fished as consistently and heavily as those on the American and New Zealand coasts it would be found that they harbour a great many of the large game fish, not excluding the broad-bill sword fish. Informa-

tion about the migratory and feeding habits of the fish is as yet very scanty, and fishermen are urged to keep records, which if they can be published from time to time in the pages of this Journal will go to make a permanent record of information for the use of generations of fishermen to come.

THE SWORDFISHES

THE SWORDFISH (*Xiphias gladius*).

The true swordfish, generally known as the broadbill, is one of the largest of the ocean game fishes and in American waters fish of up to 1,700 lbs. have been taken on hand lines by commercial fishermen. The world record for one taken on rod and line appears to be that caught near Tahiti by the late Zane Grey which was 1,132 lbs. One of 837 lbs. was caught in 1932 off the Chilean coast.

There is no very conclusive evidence that the broadbill visits East African waters although Mr. Copley records that in the Coryndon Museum at Nairobi may be seen the swords of two broadbill transfixing a bale of rubber and a bole of a coconut tree: both of which were found on the beach on the northern Kenya coast. Most authorities give the distribution of the broadbill as "all tropical waters and the Atlantic coast of America". It is possible that the broadbill does in fact visit the East African coast but does not come very close in shore but remains in the deep waters which have not so far been carefully examined.

In the absence of any reliable evidence on the point it seems all the more desirable to be able to distinguish between the broadbill and the East Indian spearfish or marlin which is held to be intermediate between the true swordfish and the sailfish and which might be mistaken for the broadbill.

The accompanying sketches will it is hoped serve to show the main differences and it will be observed that whereas the dorsal fin of the swordfish is upright and shark-like, that of the marlin is prolonged towards the tail. The fin distribution also is different.

THE MARLIN. There appear to be several variations distinguished by colour, size and shape of the dorsal fin and by other differences. Anglers throughout the world seem to have contented themselves with dividing the marlins into the striped, the white and the black. It seems probable that the marlin which visits the East African coast during the months of November to January is the striped marlin but it is not altogether certain which variety of the striped marlin is encountered, for variations are common. It is to be noted that Professor Smith in his "Game Fishes of Southern Africa" mentions that another type of marlin is known to visit East Africa and was first observed in Zanzibar in 1866. This marlin is notable for its very short spear or sword which is no more than six or eight inches in length. Professor Smith refers to it as *Tetropturus brevirostoris* and says that it has since been seen in most tropical waters but that it is "rare and elusive".

American records give the black marlin a weight of 976 lbs., and the striped marlin 692 lbs., and from New Zealand there is a record of 426 lbs. for the striped variety, but it is stated by most authorities that far heavier fish have been taken in American waters by commercial fishermen using hand-lines.

As has been noted, it is probably the striped marlin which visits this coast during the season of the north-east monsoon in December to January. Native African fishermen catch fair numbers of them and know them well. They call them *sansuli,* but on some parts of the coast they call them *nduwaru.* They are agreed that the most attractive bait is a strip of squid (*ngissi*) although a small mullet is not despised. The fact that the marlin is in the habit of stunning its prey with a sideways blow of the spear and swallowing it after it has begun to sink is well known to the African fisherman who trolls the bait behind his canoe, under sail, holding the line very lightly so that on feeling the blow on the bait he can release the line to simulate the sinking of the stunned prey. At the same time he throws the boat up into the wind and waits until he feels the bait being taken when he strikes hard. This of course is the method adopted by fishermen all over the world and the rod and line fishermen have improved on it by the use of the "outrigger" with its quick-release gear which allows a considerable length of slack line to fall loose into the sea when the bait is struck.

American and New Zealand fishermen, whose methods have been written up in many books on the subject, seem to favour a strip of some small fish or the whole of a small fish as bait but on this coast the strip of *ngissi* seems to be very successful. The artificial feathered lure however is not unattractive to marlin when natural bait is not available. The fish is usually to be found in 20 fathom water just off the reefs but that is not to say that he is not to be found in the deep waters well off shore. When hooked he will put up a spectacular fight and the majority of fishermen will be glad of a good reel and a brace or harness to support the rod.

One marlin of 44 lbs. (see photo) was caught inside the reefs near Tanga. The prolongation of the dorsal fin cannot be seen very clearly and it is difficult to determine its nature but it seems possible that this was an immature fish and that identification with any certainty would have been difficult. Another marlin of 101 lbs. was caught during 1949 in the mouth of the inner harbour of Tanga but unfortunately no details of it are available, the fisherman being a visitor. Since then a number have been taken; one off the Moa reefs of 101 lbs., while another was foul hooked in the bill but fought till it was exhausted and was brought alongside the boat ready for gaffing, when the hook broke. It was estimated that this fish was about ten feet long from the tail to the butt end of the bill. The fish was generally very dark in colour with some olive green patches along the back. The stripes were clearly visible as was the large black eye which has been called the "hypnotic" eye and for which the reason was quite clear. The fish presented an appearance of great strength and power. This fish was

taken on a feathered jig in 15 fathom water about one mile off the reef in clear calm weather on a flood tide (springs) on the 28th November, 1948. It has been said that marlin usually cruise with the current but this can scarcely be so for on this coast there is always a current running from north to south.

THE SAILFISH (*Istiophorus gladius*).

The sailfish is to be found in all tropical waters but there seem to be a great many varieties and the American writer Connant in his book refers to no less than ten. The accompanying sketches will serve to depict those most likely to be encountered on the East African coast. The *I. indicus* is held to be the type species of all the sailfish and was named by Brussonet in 1876. The world record seems to be one of 180 lbs. killed in the Pacific and 106 lbs. killed in the Atlantic (American waters in both cases).

The sailfish is frequently seen and caught by the African fishermen on the coast who know it as the *nsulinsuli* and regard it with respect as a dangerous fish. Copley in his "Game Fishes of Africa" confirms this and says that "unless equipped with a well found boat and proper tackle no angler should put a bait before a sailfish with the idea of hooking and playing such a fish". That seems to be sound advice for it is generally conceded that the sailfish is a dangerous fish which will attack a boat and that even after being caught and boated it may do considerable damage. It is on record that a sailfish of 179 lbs. was taken on a hand-line off Mombasa and that on 20th March, 1935, Mr. M. Cottar captured one on rod and line weighing 131 lbs. which was 9 feet 6 inches in length. On the Tanganyikan coast Col. Boscawen has killed one of 100 lbs. while further south off Pangani another fisherman killed one of 67½ lbs. It is probable that equally large or larger fish have been caught by African fishermen, for one has heard of battles lasting a whole day. Unfortunately no records of such fish are available and there can be no saying how heavy they were.

The sailfish is remarkable for is beautiful colour-scheme, shading from blue to mauve over which play tinges of violet and pink. Unfortunately, as is so often the case with sea fish, the colours fade very rapidly once the fish is taken out of the water. Like the other spear fishes the sailfish stuns its prey but it is thought that unlike them it does not wait until the stunned prey has commenced to sink before taking it in its mouth but does so at once holding it for a short time before throwing it up into a position suitable for swallowing. Native African fishermen use squid for sailfish and most accounts suggests that a bait which is attractive to Marlin will also be attractive to sailfish and that generally the same methods should be adopted. Readers are recommended to consult Copley's "Game Fishes of Africa" for further information about this interesting and almost sensational fish.

A party of American fishermen visited East Africa in 1952 and caught a great number of sailfish in the deep waters east of Zanzibar and Pemba. It is to be hoped that some account of their experiences will be published.

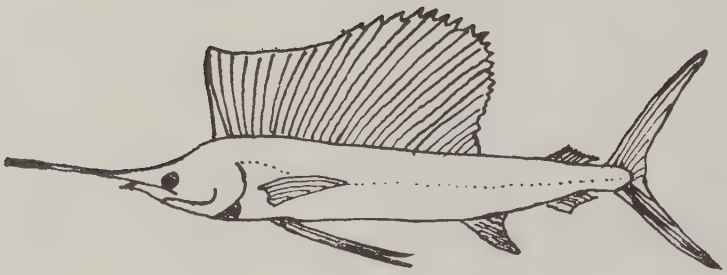
The Swordfishes and Sailfishes

Broadbill swordfish—*Xiphias gladius*

Marlin swordfish — *Makaria herscheli* — Sansuli

Indian Sailfish — *Istiophorus gladius* — Sulinsuli
(Type species of all sailfish)

Makaira grammatica



Sed-sea Sailfish
Istiopharus gladius immaculatis

Second intermediate type—*Tetrapturus ectenes.*

Marlin—Swordfish
Makaira Indicus

THE KINGFISHES

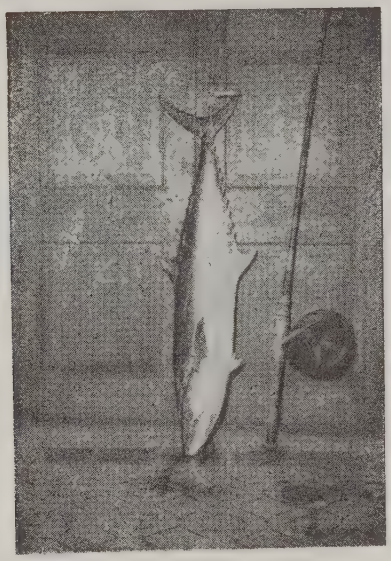
THE KINGFISH (*Scomberomorus commersoni*). This fast moving fish is to be encountered along the Tanganyikan coast during most months of the year: its weight varying from a few pounds to 60 or 70 lbs. They feed very close to the surface and the writer has caught more of them on a six-inch nickel spoon weighted with a 4-oz. lead than on any other lure, although the feathered jig has met with some success. When hooked the kingfish makes off with a spectacular rush which will often take out 100 or more yards of line before he can be controlled and he will fight stubbornly until brought to gaff. One of 31 lbs. fought vigorously for 57 minutes on the clock and never ceased to keep the line taut throughout the struggle. The fish is well known to the native fishermen under the name of *nguru,* and is excellent eating.

During the months of April and May the coast is visited by a smaller kingfish which is very similar to that described by Copley as the common kingfish (*S. maculatus*). This fish is as stubborn a fighter as his bigger brother and will take a feathered jig with avidity. He is known to the native fishermen as the *kanadi.*

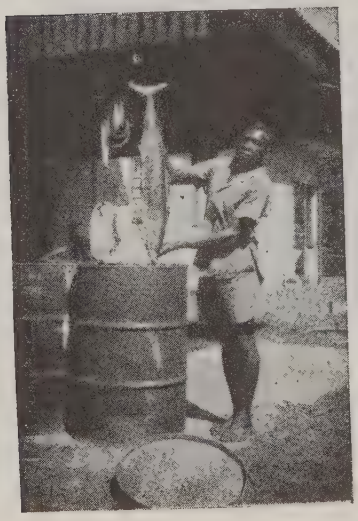
Although not of the same family as the kingfish, its similarity to that fish makes it desirable to mention here the *wahoo* (*Acanthocybium solandri*) which is sometimes known as the greater kingfish. There are however considerable small differences between the two which can be seen in the accompanying sketches. Nevertheless the two fish are sufficiently alike to suggest that it is probable that many wahoo have not been recognised as such: the more so since the native fishermen call them *nguru.* The wahoo may be regarded as a game-fish and the world record seems to be 124 lbs. taken in Honululu. Copley records two of 74 and 76 lbs. taken in East African waters and thinks it probable that the wahoo go about in pairs. One of 64 lbs. was taken off the reefs at Moa in November, 1947. The fish is generally to be found in Tanganyikan waters during the season of the north-east winds in deep water on the seaward side of the reefs. It will take a feathered jig or a strip of *naissi* (squid) and will put up a most spectacular fight; taking out 60 or 70 yards of line in its first rush and thereafter leaping in the air, circling widely, boring and surfacing until after a hard fight it is brought to gaff. A clever and competent coxswain is required when a wahoo is on the line for it will go under the boat, breaking the line on the keel or in the propeller, if the boat is not manoeuvred with skill.

If the dried kingfish brought down by the dhows from the Persian Gulf are any indication the fish must run to a very great size in those waters. However, they may well be wahoo for it is not always easy to distinguish between them.

The Kingfishes



King Fish
S. Commersoni



Wahoo

Wahoo — *Acanthocybium Solandri* —Swahili: Nguru
32 lbs. caught off Tanga.

Wahoo

King-Fish — *Scomberomorus commersoni* — Nguru

King-Fish — *"That which appears in April"* — Kanadi

Wahoo — *Acanthocybium solandri* — Nguru

THE HORSE MACKERELS

This group is known under the general name of *Caranx,* but there is a certain amount of uncertainty about the classificattion. It will be best therefore if the two members of the family which frequent the African fishermen, viz.: *Karambisi* and *Kolikoli.* Both are to be the East African coast be referred to by the names given to them by found on the coast at all seasons of the year.

THE KARAMBISI. This is the larger of the two Caranx met with on this coast. It may be *C. hippus* or *C. carangus* but, as can be seen from the accompanying picture, the dorsal fin does not accord with the accepted notion of *C. hippus* but rather with that of the Golden Caranx (*C. melampygus*) and the point is one which will require to be cleared up by the scientists. The Karambisi runs to considerable size, and fish of 93 and 82 lbs. have been caught off Mombasa, one of 85 lbs. off Moa and of 78 lbs. off Tanga, while fish of 20 or 30 lbs. are common. The large Karambisi frequent the 15 fathom water on the edge of the reef just before it descends abruptly into the depths. The accompanying pictures and sketches will serve to give some idea of the general appearance of the fish which is a rather dark muddy grey on the back toning down to an off-white on the belly with some indeterminate yellow markings on the flanks. The Karambisi will take most natural baits trolled about a foot or two below the surface but almost all caught by the writer have been taken on a six-inch nickel spoon with a 4-oz. lead trolled at about five knots just below the surface. On taking the bait the fish makes off with a great rush for some fifty or sixty yards, after which it fights stubbornly and deep. It will prolong the fight for some time and a large one may do so for fifty minutes before it can be brought alongside to gaff.

THE KOLIKOLI. This is probably the striped caranx (*C.speciosus*) but the stripes are not very clear on the local fish and have not therefore been shown in the sketch. It may be that in other waters the stripes stand out more clearly. There is a considerable similarity between a large Kolikoli and a small Karambisi and so far as the writer is aware the only sure way of distinguishing them is by the fact that the Kolikoli has no teeth whereas the Karambisi is equipped with them. The Kolikoli will be found to have in place of teeth something which feels like coarse sand-paper. The Kolikoli generally feeds deeper than the Karambisi and although it will take a trolled bait it is more usual to go after them with a hand-line from a stationary boat, baited with sardines or small strips of squid. When feeding the Kolikoli may be caught in great numbers and as it frequently feeds in clear water it is of great interest to watch how it approaches and takes the bait. They usually feed from about half flood to the turn of the tide after which they "go off the boil" quite suddenly and it is useless trying to catch any more. The Kolikoli is much prized as a table fish and one of eight or ten pounds is very delicate eating.

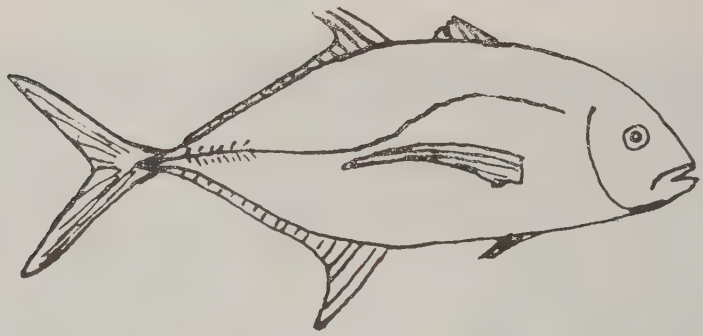
The Horse Mackerels

Horse Mackerel — *Caranx* — Swahili: Karambisi
43 lbs. caught off Moa reefs.

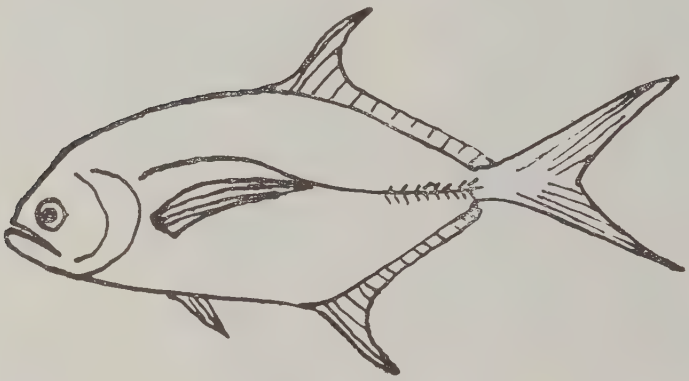
Horse Mackerel — *Caranx* — Swahili: Karambisi

45 lbs. caught off Tanga.

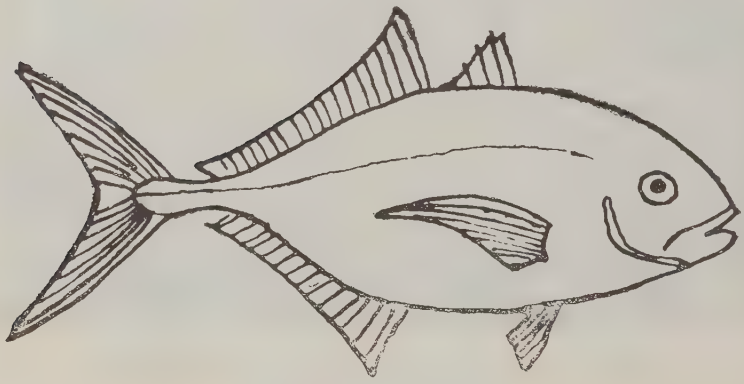
Horse Mackerel — *Caranx* — Swahili: Karambisi
78 lbs. caught off Tanga.



Caranx melampygus —Karambisi



Caranx carangus — Karambisi



Caranx speciosus —Kole kole

SNAPPERS AND BREAMS

Although these fish are of quite different families, the snappers being of the *Lutianus* while the bream are of the *Pagrus* family, their general resemblance is close enough to warrant their being treated together.

The accompanying sketches will serve to give some idea of the more common types encountered on the Tanganyikan coast. Copley gives some 13 different species of *Lutianus* and some 10 of *Pagrus*. The name used by the less high-brow fishermen is *kungu* or *mkunguu* but the more skilled can put a name to almost every species and make a clear distinction between the *mkungu* and the *tembu* and its sub-divisions, although it will be observed from the sketches that they call the spotted snapper (*L. gembra*) *kungu* and refer also to the two breams shown as *kungu*. Allowance however must be made for local names and the differences between them over comparatively short distances and also that in the case of the two of the *Pagrus* family the committee of fishermen identified from coloured prints and sketches and not from real life.

L. kasmira—the striped snapper: this seems to run to two or three pounds and is noticeable for the rather wide horizontal stripes which are inclined to be blue on a dark olive-green background. Native name: *tembu uzi*.

L. duodecomlineatus—the narrow-striped snapper in which the blueish stripes are much narrower and the background is a very pale yellow. Native name: *tembu sindano*.

L. fluviflamma—the spotted snapper or Jhonny. Noticeable for the dark brown spot on the upper flank. Native name: *tembu kibata*.

L. sebea—Seba's snapper runs to 8 or 9 lbs. The general colour is strawberry red with black bands as shown in the sketch. It is known to the native fishermen as *dunbwara* or simply *tembu*.

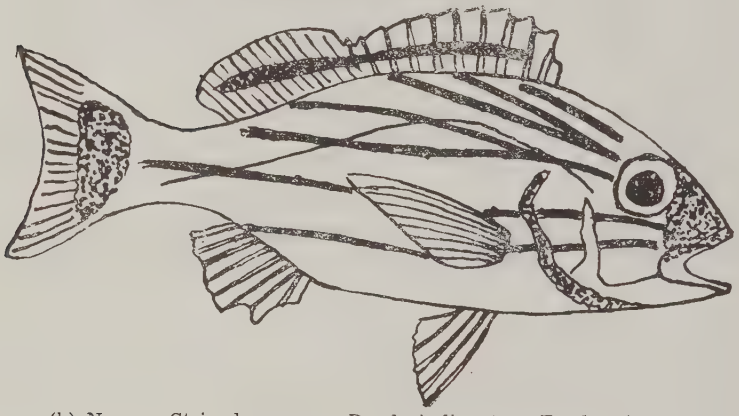
L. gembra—Rock Salmon. The general colour is strawberry red with an off-white belly. The fish is scaled all over. It is known to the native fishermen as simply *kungu*.

All these fish are to be found in 8 to 20 fathom water over a sandy bottom with rocks. They are attracted by prawns and by pieces of squid presented to them on a hand-line. They are powerful fish although not very active and can put up a considerable fight. Lieut.-Commander Cole notes that the scales are hard and that the fish should be played to a standstill owing to the difficulty of gaffing it. They can run to as much as 20 lbs.

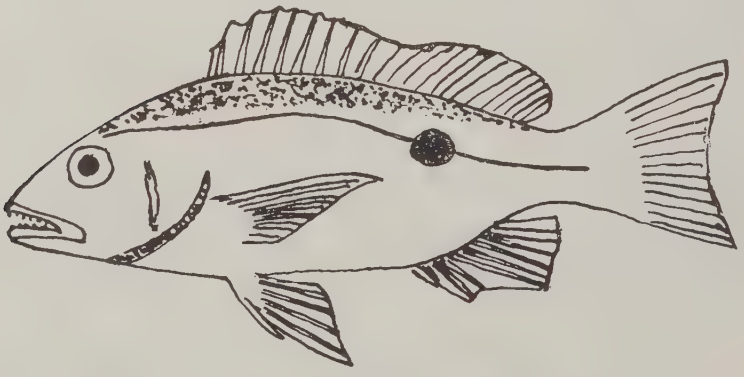
Two examples of the *Pagrus* are given in the accompanying sketches but a great deal more information regarding these fish is necessary before it can be said with certainty which of them visits the coast and what are its habits.

The Snappers

(a) Striped Snapper—*Lutianus kasmira*—Tembu uzi

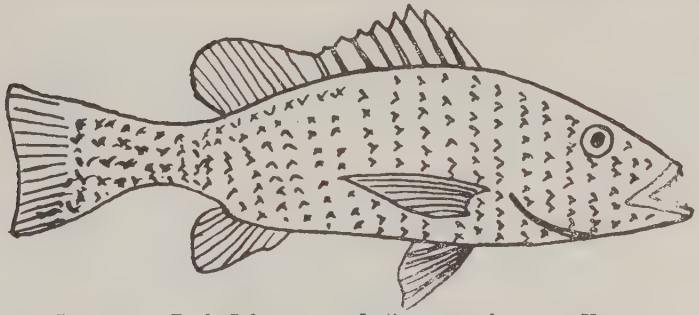


(b) Narrow Striped snapper—*Duodecimlineatus*—*Tembu sindano*

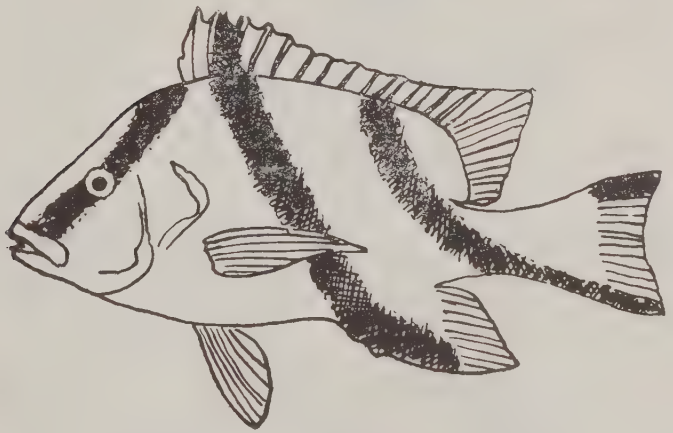


(c) Spotted Snapper—*Gluvlflamma*—*Tembu kibata*

(a) Olive green: stripes blue.
(b) Dark lemon yellow, stripes greyish blue, stripe on dorsal fin dark blue.
(c) Black to olive green tapering off to light brown. The spot on flank is very dark brown.

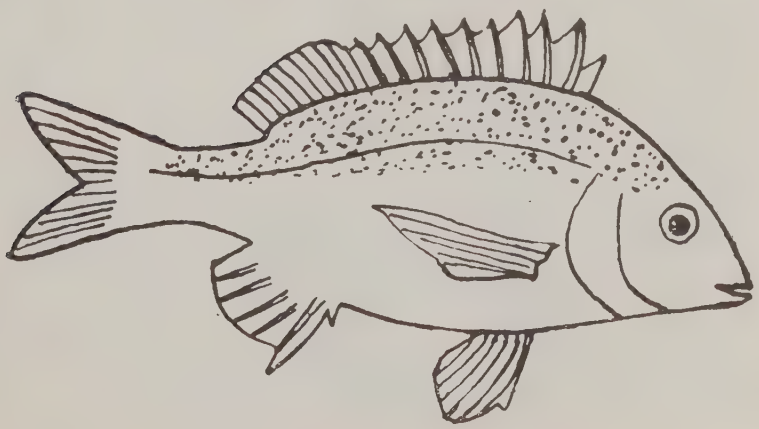


Snapper or Rock Salmon — *Lutianus gembra* — Kungu

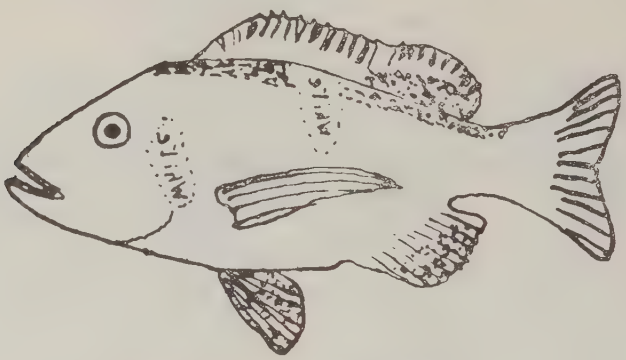


Snapper — *Lutianus Sebea* — Dunbwara

Pagrus Family—Breams



River bream—*Acanthropagrus breda*—Kungu
Steel grey in colour.



Roman—*Pagrus laticeps*—Kungu
Colour: Brilliant orange red with two white patches as shown outlined. There is sometimes a blue stripe behind the eyes.

THE ROCK-CODS

There are a great many types of rock-cod to be found on the Tanganyika coast and it is difficult to distinguish them owing to the fact that the term "bass" seems to be used by some authorities and the native fishermen use the names of *chewa* and *njombe* with other special names as well. Moreover the scientists have not yet got the family into proper order so that for the purposes of the ordinary angler it will probably be best to call them rock-cod and leave it at that.

The rock-cod displays a quite astonishing variety of colours and Copley says that variations take place continuously until the fish become very old and large, when the colour is almost black. To endeavour to distinguish them by colour alone would therefore be unsafe. Many of them run to very great size and these can usually be found lying close to a steamer anchored in harbour on the lookout for offerings from the slop bucket. One of 550 lbs. was taken in Tanga harbour by one of the crew of a British India steamer. For bait he had used the hind quarters of a goat and the ship's cargo derrick was necessary to lift the fish out of the water and in-board. The smaller varieties which run from 5 or 6 lbs. to 60 or 70 lbs. are usually to be found lying close to the reefs where the bottom consists of rocks and sand. They will take most natural baits lowered to them from a stationary boat and will take a spoon trolled slowly a foot or two below the surface. They are not spectacular fighters but will provide plenty of hard toil before they can be brought to gaff. Once hooked it is important not to let the fish go to the bottom where he will wedge himself beneath a rock and become almost immovable. In such circumstances the angler generally loses the battle of patience and cuts his line. It is sometimes possible to shift such a fish by hauling the line tight and plucking at it with the fingers. The vibrations set up seem to disturb the fish, which may come out from under the rock and should then be pumped to the surface and played until captured.

The accompanying sketches will give some idea of the general appearance of the rock cod:

Ephinelphus tauvina—sometimes called *tegu* by the African fisherman. This fish is one of the larger of the rock cods and may run to 100 lbs. It is best taken on a hand line baited with a whole mullet and is generally to be found in 20 fathom water off the reefs.

E. lanceolatus—native name *chewa*. Probably the largest of the rock cods and the one taken on the B.I. steamer mentioned above. Almost black in colour, very ugly and ungainly.

E. fuscoguttatus. Generally grey in colour with irregular brown spots, blotches and splashes, it runs to two feet in length.

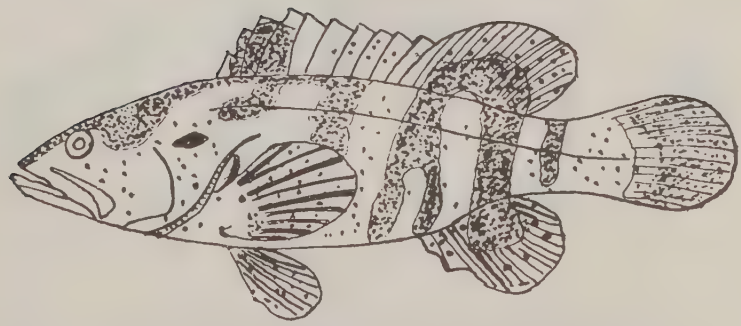
E. diacanthus: brown with dark spots and dark vertical bands.

E. aerolatus: brownish red spots over a white base. Native name *puwi*.

E. morhua: The stripes shown in sketch are frequently more marked and undulating and additional stripes may be found on the after-part of the body.

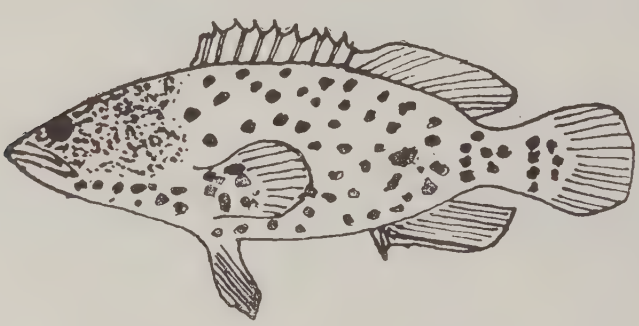
E. fasciarus Strawberry red all over with black tips to the dorsal fin and darker red patches over the back. The fish runs to about 20 lbs.

Rock-Cod



Rock-Cod—*Ephinelphus tauvina*—Njombe or Tegu
Pale yellow with brown markings and striped. Fins pale greenish

Rock-Cod—*Ephinelphus lanceolatus*—Chewa
Steel-grey merging into white with fins and tail yellow towards outward edges.



Marbled Rock-cod—*E. fuscoguttatus*
General colour grey with brown spots and blotches

The Two-spined Rock-cod—*E. diacanthus*
Body brown with dark vertical cross bands
often a dark band access the cheek.

Rock-Cod—*Epinelphus aerolatus*—Puwi
Brownish-red spots on white base all over.

Rock-Cod—*Epinelphus morhua*—Moshi
Indeterminate grey to pale flesh colour
with yellow fins.

Rock-Cod—*Epinelphus fasciarus*—Njombe
Strawberry red all over, black tips to dorsal
fin darker red patches over back.

THE TUNNIES

The giant tunny of European and American waters is well known for not only does it provide considerable addition to the world's food supply but it provides some spectacular rod and line battles of which some of the most noteworthy are those which have taken place on the Yorkshire coast when fish of 700 or 800 lbs. have been caught with rod and line after prolonged struggles which have lasted several hours.

These giants, so far as is known, do not visit East African waters, although other members of the family do so and of these the best known seem to be:

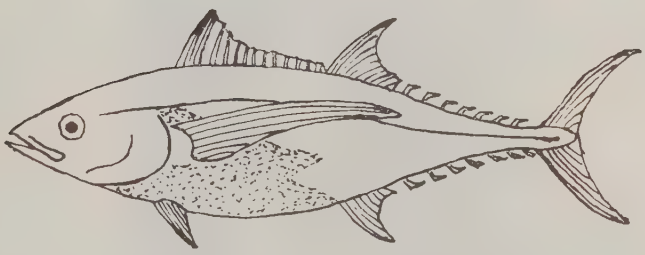
The blue-finned tunny (*Germo alalunga*)—sometimes called the albacore and known to the native fishermen as the *jodari*. This fish runs to considerable size and four averaging 35 lbs. were once taken off the Moa reefs in a few hours. The record however seems to be one of 81 lbs. caught by Commander Blunt in Mafia. The general appearance of the fish may be gathered from the accompanying sketches. The colouring is a rich dark blue on the back toning off through grey to silver tinged with pink on the belly. The small finlets are frequently lemon tinted. The fish will take most fast moving lures which are not too deep but most of those caught by the writer have been on a six-inch record spoon, although the small feathered jig has accounted for several. The fish has been encountered on this coast during almost every month of the year and generally lies in 15 fathom water on the seaward side of the reefs and in the channels between the reefs. When the bait is taken the fish makes off at high speed taking out 50 or more yards of line, after which it will fight deep, circling and weaving. It will continue to fight stubbornly and even when it is at last brought alongside seems to be able to summon up a reserve store of energy to enable it to renew and prolong the battle. It is a full-blooded fish and will bleed copiously from the gaff wound and it is desirable therefore to have ready a gunny bag into which he can be inserted tail first or the bottom of the boat will be drenched in blood. The fisherman who succeeds in bringing a 40 lbs. tunny to gaff may congratulate himself. So far however only comparatively small fish have been recorded and these have been taken close to the reefs. It seems very likely that an expedition into the 200 fathom water several miles off shore might produce tunny of far greater size.

The yellow-finned tunny (*Germo albacora*): frequently called Allinson's tunny and also known to the native fishermen as the *jodari* is to be encountered in East African waters but there is some doubt about its migrations, for while both Copley and Cole are of the opinion that it is only to be found during the months from November to March, fishermen in Tanga have records of them in August and September. The similarity of the two fish and the fact that they are both known as *jodari* to the African fishermen may have led to some confusion and it seems likely that a great deal more information about the habits and movements of the whole family is required. The yellow-finned tunny is not unlike the albacore (*G. alalunga*) but there are a number of differences which can be seen from the accompanying sketches.

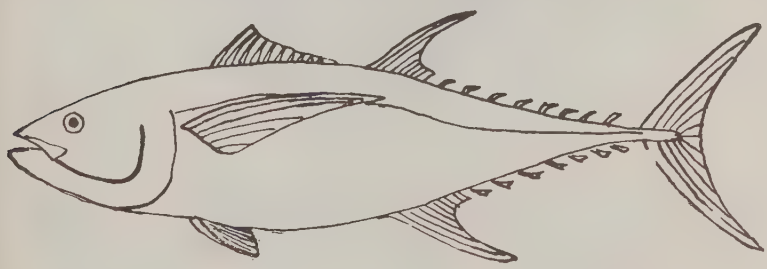
The most outstanding difference is that the dorsal and anal fins are bright lemon-yellow in colour. The fish is the same stubborn fighter as its brother and it usually runs to greater size: the world record seems to be one of 184 lbs. caught in Tahiti. On this coast the largest of which the writer has heard is one of 68 lbs. caught by the late Captain Payne off the reefs to the south of Tanga.

The Bonito (*Sardasarda*) is a small tunny-like fish known to the African fishermen as the *sahewa*. It is to be found almost constantly on the Tanganyika coast and seems to spent its life harrying the shoals of *dagaa* in company with the sea birds. It runs to 8 or 9 lbs. but is normally so occupied in chasing *dagaa* that it is almost impossible to pursuade it to take a hooked bait. Indeed it is the belief of the writer that the half dozen or so which he has caught ran into the bait by mistake: one at least was foul hooked in the afterpart of the belly. Native fishermen bait for them with one sardine on a small hook but they are a poor enough fish when caught, although they might give considerable sport on light tackle.

The Tunnies



The Blue-finned Tunny—*Germo alalunga*—Jodari.
The colouring is a deep blue on the back tapering off to silver on the lower flanks and belly. There is some lemon tinting of the soft dorsal, the finlets and the tail.



Yellow finned or Allinson's Tunny—*Germo albacora*—Jodari
This tunny is notable for the bright lemon yellow coloring of the dorsal and anal fins and on the finlets.

Bonito — *Sarda sarda* — Sahewa

Blue-finned Tunny—G. alalungu

Germo alalungu

MISCELLANEOUS SPECIES

THE RUNNER (*Rechycentron canadum*) is known to the African fishermen as the *songoro* and is to be encountered during August and September. Lieut.-Commander Cole records that it is an excellent fighter, being strong and fast and that fish up to 40 lbs. have been caught.

A second RUNNER (*Elegatus binunnulatus*) is known to the African fishermen as the *kranzi*. This fish seems to be comparatively rare on the coast although it is mentioned by Copley who gives it the native name of *kilualua*. The body is long, slim and mackerel-like with a long dorsal fin, portion of which folds down into a slot. The colour is generally dark blue in the upper half and silver on the belly with two broad blue bands, between which runs a yellow band: a very showy fish. The largest heard of on this coast is one caught at Durban in South Africa. The fish behaves like a king-fish when hooked and seems to have the same preferences in the matter of bait. It is a first-class fighter, working mostly on the surface and until gaffed and closely examined may well be thought to be a good-sized king-fish. That taken by the writer was on a 6-inch nickel spoon in 90 fathom water and three miles off the reefs. It did not appear to be in company with others.

SPRINGER (*Elops saurus*) known to the native fishermen as *chache*. Lieut.-Commander Cole records that it is a silvery fish with large scales, a small mouth and minute teeth and that on being hooked it has a most peculiar action: diving and immediately surfacing repeatedly. This action may have given it the name of *springer*. It is not common on the East African coast and is believed to attain a weight of 12 lbs. It is sometimes called the Cape Salmon.

BARRACUDA (*Sphyraena*). That found on the Tanganyika coast is probably *S. jello* and it is encountered throughout the year. It is known to the African fishermen as *Mziha* and is not known to run to any great weight although one of 40 lbs. has been killed near Moa. In the Seychelles it is reported that fish of far greater size are common. It will take a spoon or natural bait trolled just below the surface and on taking the bait will make off with a rush which is rather impressive. Lieut.-Commander Cole expresses the opinion that more tackle has been broken by barracuda than by almost any other fish. It has the reputation of being a stout fighter but in spite of the opinion of others the writer must record that he has always found the barracuda a disappointing fish. It is true that it takes the bait well and makes some spectacular rushes but it very soon goes lazy and swims slowly in the wake of the boat so that it is difficult to keep the line taut and out of the way of the propeller. Barracuda have an objectionable habit of snapping at one of their number which has been hooked and they will attack other fish on the hook, tearing them to bits and many fishermen have found themselves left with nothing but the head and shoulders of what must have been a good fish, thanks to the pirate barracuda. Its flesh is poor eating, and taken by and large it is not much of a catch. During the north-east monsoon season of 1950/51 in the months of October, January and February three unusually large barracuda were caught in the neighbourhood of Moa on a red mullet bait: they were of 47, 48 and 45 lbs. respectively.

THE FIVE-FINGERED JACK: This is called by the African fishermen the *pandu* and it is probably *Chorinemus lysan,* which runs to 20 or 25 lbs. One of 20 lbs. might be considered exceptional. Its appearance can be gathered from the accompanying sketch and it is notable for the five blotches or "finger-marks" on its flanks. It is to be encountered during most months of the year and the writer has caught the fish in April and October on a six-inch record spoon and on a feathered jig trolled at about five knots in five fathom water inside the reefs. Their chief food seems to be *dagaa* which is the bait used by African fishermen when following the *pandu.* The fish is sometimes referred to as the Queen-fish, but it seems probable that this is incorrect and that Queen fish applies to *Chorinemus sancti-petri,* a much smaller fish which is known to African fishermen as *pandu majasi.*

THE INDIAN HERRING (*Rastrelliger brachysoma*) seems to be comparatively rare on the Tanganyika Coast although it is known to African fishermen as *kifimbo* and two caught by the writer in very deep water some miles off shore were identified by elderly and experienced fishermen as such. Some of the younger men however admitted that they had not seen them before. These fishes were taken on a 6-inch record spoon and a small feathered jig and were of 10 and 4½ lbs. On taking the bait they made off at high speed and continued to fight in short sharp rushes. The smallness of the mouth made it a matter of surprise that one of them should have been able to take a bait so large as a six-inch spoon. The *kifimbo* is a very showy fish with a deep blue back tapering off to a greenish blue at the middle of the flank below which is a band of orange tapering off into pale pink and silver on the belly. The black tips to the dorsal fins are noticeable.

THE DOLPHIN (*Coryphaena hippurus*). This fish, which is known to the African fishermen as the *falusi,* visits the coast during the months of November to March but has been seen as late as May. It is one of the fastest fish known and is a voracious feeder. The sight of a school of dolphin feeding is most spectacular: the water boils and bubbles and the fish rush hither and thither at high speed more often on the surface than beneath it. When really feeding the dolphin will take any lure, even a piece of rag is quite sufficient. It is a good plan when the first one is caught to release him tied to a piece of line to swim about around the boat for he will attract many others. When hooked the dolphin goes off at a rush but soon tires and can be brought to gaff without much difficulty. In appearance the fish is very attractive: burnished silver shot with green and gold, and a blue-black shot with green and olive and sprinkled with brown spots over-all but it is difficult to describe the colour scheme in words and a fish must be seen freshly caught or still in the water. Unfortunately the colours fade rapidly when the fish is taken from the water. These fish run to 20 or 30 lbs. close in to the reefs but much larger fish are taken off shore and one of 68 lbs. has been taken on rod and line off the reefs south of Tanga in 100 fathom water.

GAR-FISH, (*Tylosorus choram*). The appearance of the gar-fish with its elongated jaws is known to most people. The fish is rather dark blue above inclining towards greenish blue on the flanks and greenish-white on the belly. It runs to a length of about 5 ft. and to a weight of about 12 pounds. One caught by the writer was eight pounds in weight and 3ft. 7½ins. long. It was taken on a small feathered jig in 10 fathom water outside the reefs. It is to be found during most months of the year and will take any trolled bait of suitable size and fights well giving considerable sport on light tackle. It is normally very active and in times of danger can be seen scuttering along the surface apparently standing on its tail in an attempt to escape its enemy. Copley records one of 9¼ lbs. and 4ft. 9 ins. long taken at Kilifi. It is known to the African fishermen as *ngarengare* but Copley records also *sambereru* and Lieut. Commander Cole records *sumbereru.* Small gar-fish, whether of the same or a different species, can be seen in most quiet inlets and harbours lying close to the surface and keeping themselves in position by almost invisible movements of the tail while they feed on small insects on the surface of the water.

THE KAAPAK OF THE EAST INDIES (*Aprion virescens*).

This very sporting fish is well known to African fishermen as the *rongo.* It is generally steel-blue in colour and is a powerful fish with massive jaws as can be seen from the accompanying sketch. It takes the bait with avidity and rushes off with it at high speed for forty or fifty yards before it can be brought under control. It fights stubbornly just below the surface, boring and circling. Not much is known of its habits and it is not apparently very common for several fishermen of the younger generation did not recognise it when shewn it. The two caught by the writer during December and January were of 14 and 10 lbs. One was caught on a six-inch nickle spoon in 20 fathom water outside the reefs while the other was caught on a feathered jig in 5 fathom water just at the edge of the reef.

THE DORAB OR WOLF-HERRING (*Chirocentrus dorab*): This is known to the Africa fishermen as the *mkonge*. It is generally silver-coloured with a dark-blue back. It is a fierce fighter with formidible teeth. Copley records that it is best fished for with a small mullet or a bunch of *dagaa* but that it will take a Wilson spoon. It goes to 10 or 15 lbs. and he says that it will make determined efforts to bite anyone or thing in the boat and must thus be handled with caution. It is to be found on the coast during the months of the N.E. monsoon in numbers and in lesser numbers during the remainder of the year. It is too boney to make a very attractive table fish.

WHITE STEENBRAS (*Pagellus lithognathus*): This is well known in South African waters where it is esteemed as a first-class game fish. It is not mentioned by the authorities as being a visitor to this coast but a committee of elderly fishermen discussing pictures and sketches of fish were very insistent that it does visit these waters and is known to them as the *somali*. It is therefore included here but its presence on this coast needs confirmation.

PARAPERCIS ROBINSONI: See sketch. A fish resembling this is known to African fishermen on this coast as the *songwa*, which runs to 12 or 14 inches and is to be found among the rocks at the edge of the reefs. It is said to be a strong fighter and to give a good fight on a hand-line.

KABELJOU (*Sciaena hololepidotus*): The kabeljou is well known by that name in South African waters and is probably the meager fish of England and the white sea-bass of America. Its distribution is said to be the South and North Atlantic, the western Indian ocean and the east coast of Australia, but Copley records that it is to be encountered off the East African coast during the months of December to March in 20 fathom water off Malindi and Shimoni. Its food he states is mullet and various sardines but the best baits are squid, octopus, mullet and sardines in the order named. The record in South African waters is said to be 159 lbs. The colouring is generally silver with an iridescent bluish or greenish tinge and the accompanying sketch will give some idea of its general appearance. Tanga African fishermen failed to recognise the fish at all when its appearance and colour was described and when sketches and coloured plates were shown to them. It may be that the fish confines its movements to very restricted areas and that although it may visit Shimoni it does not visit Tanga waters, which are 40 miles distant.

TASSEL FISH (*Umbrina capensis*) known to the African fishermen as *nduyi* it is recognisable by the oblique wavy bluish stripes along the flanks. It runs to eight or ten pounds and will take any soft bait. It is to be found all the year round in the shallows along the reefs.

CORAL FISH (*Heliastes operculatis*) known to the African fishermen as the *nduzi*. It is only included here because of its strange colour scheme, for it is totally mohogany brown with brown

spots save for the tips of the fins shewn in the sketch, which are a pale biscuit colour. It runs to a few pounds and is good eating.

GREY SKIN (*Plectoryhynchus griseus*) known to the African fishermen as *kiyuchi* or *futi*. It is generally dark grey all over the upper half intersected with bands of a lighter colour. The belly is a dull silver. tI may run to 15 lbs. and is an excellent table fish but not much else is known about it.

NJAU, which is the African name, is probably one of the scavangers (*Lethrinus nebulosis*), see sketch. Copley gives it the African name of *tangu* or *changu chole* but the Tanga fishermen call it *njau*. It is scaled all over with lateral streaks of a rather brilliant blue as shewn in the sketch but perhaps not so clearly defined in real life. It is one of the smaller fish which live amongst the rocks under which they can take refuge but Copley records that he has taken one of 17½ lbs. and that the best bait is octopus.

The three following fish are well known to African fishermen who regard them of importance because of their food value:

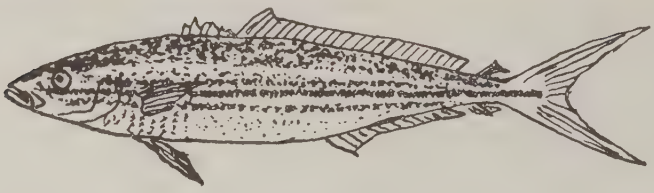
LIKOWE: Found close to the reefs, attains 18 inches, dull smoky grey with reddish spots. The sketch of *Plectorhynchus pictus* gives some idea of the appearance of *Likowe*.

CHAFI: to be found in deep water off shore. Is generally olive green paling off along the flanks and tinged with blue on the belly and tail. The dorsal and anal fins are transparent buff. To be caught on prawn or a piece of squid. The sketch of *Pterosmeris axillaris* gives some idea of the appearance of *Chafi*.

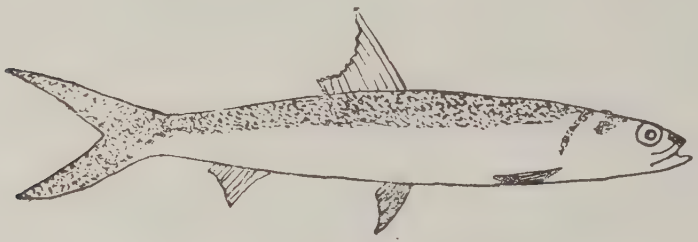
KIUA: it is possible that this is the Karanteen (*Crenedens indicus*). It is to be found in 15 fathom water over a rocky bottom and can best be lured with a prawn or piece of squid. The lateral lines in the sketch are brownish in colour on a blue background but are less well defined in life.

Miscellaneous Species

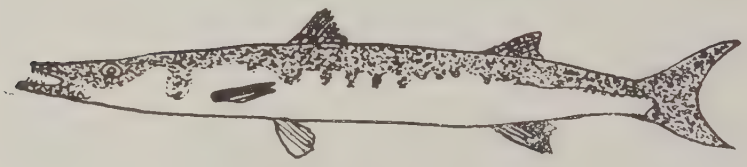
Runner — *Rachycentron canadum* — Songoro
Dark brown on back merging to silver on belly with a broad dusky band along the flank.



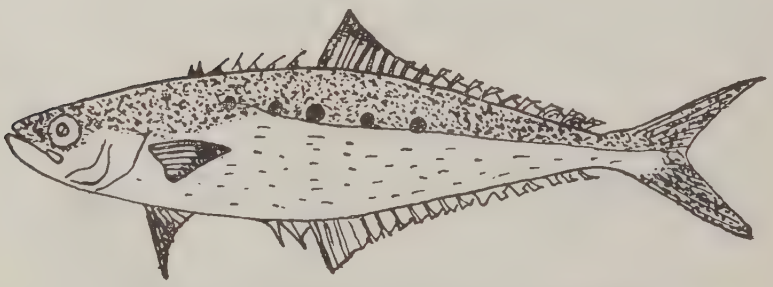
Runner—*Elegatus binunnulatus*—Kranzi
(The name Kifimbo is encountered)
Deep blue on back below which is a band of yellow followed by a narrow band of deep blue. The color then tapers off through silver to grey with a pink tinge on the belly. TheThe tail is tinged with yellow.



Springer — *Elops saurus* — Chache
Generally silver



Barracouda — *Sphyraena jello* — Mziha
Generally smoky black and grey

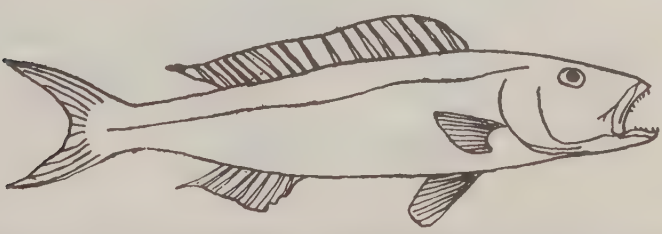


Queen Fish or Five-fingered jack—*Chorinemus*—Pandu

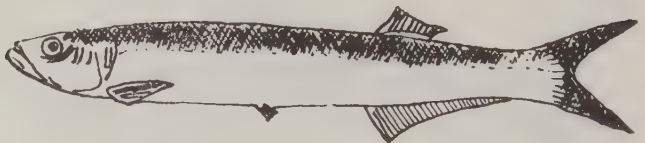
Indian Herring—*Rastrelliger*—Possibly Kibua
(The name Kifimbo is encountered)
(This may be R brachysoma)
Dark blue above the lateral line below which there is a band of orange tapering off into grey and silver with a pink tinge on the belly.

Dolphin—*Coryphaena hippurus*—Falusi
Blue back tapering off through red to silver. Dorsal fin olive green. Tail fin variegated red to olive green.

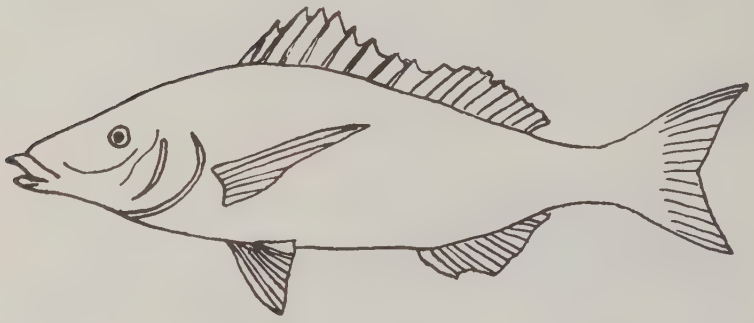
The Gar-fish — *Tylosurus choram* — Ngarengare
Colour: Dark blue above and light blue below in both cases rather watery. Theer is a silvery lateral line and the soft part of the fins has some tendency to a pale greenish yellow tinge.



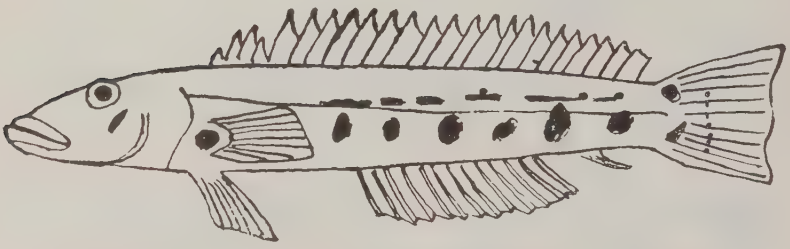
The Kaapak of the East Indies — *Aprion Virescens* — Native Name Rongo



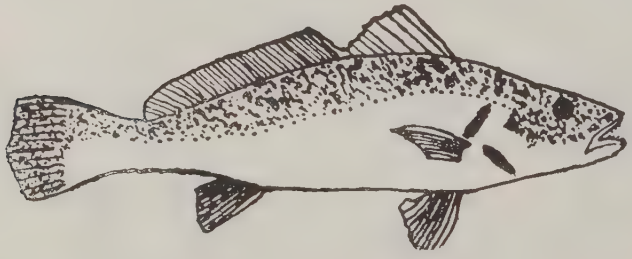
Dorab—*Chirocentrus Dorab*—Mkonge
Generally silver with dark blue back



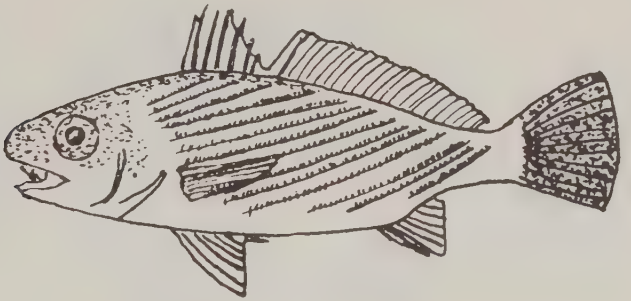
White Stenbras — *Pagellus Lithognathus* — Somali



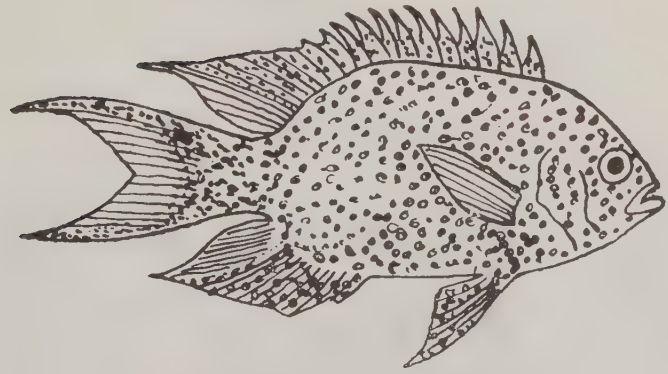
English name unknown—*Parapercis Robinsoni*—Native name *Songwa*



Kabelou—*Sciaena hololepidotus*
(African name not established)

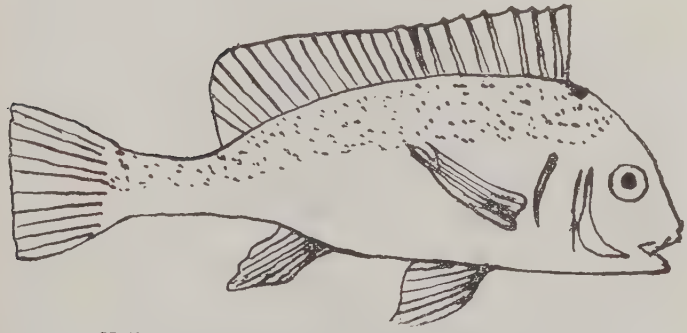


Tassel fish—*Umbrina Capensis*—Nduyi
Greyish-green with brownish stripes.

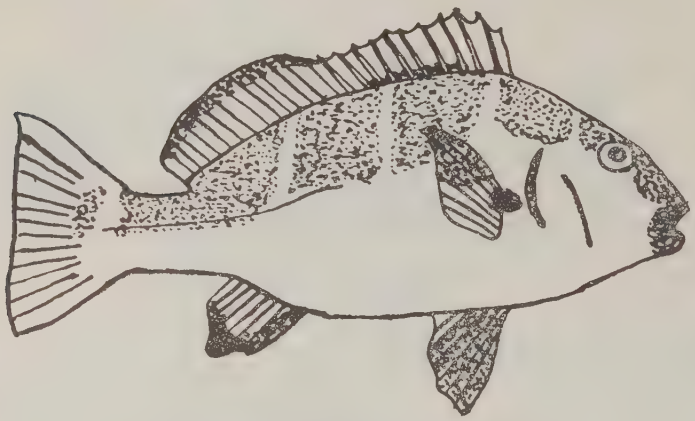


Coral Fish—*Heliastes operacularis*—Nduzi
Mohogony brown covered with circular spots but the fins where shown in the sketch as unspotted are a pale biscuit colour

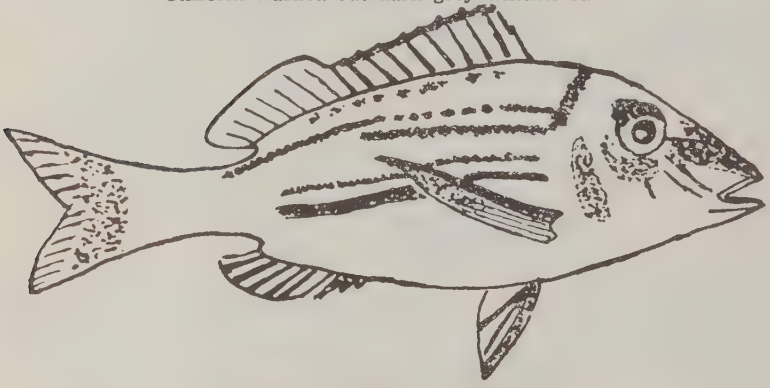
Intermediate form with characteristics of Sail-fish and Marlin



Native name: *Likowe*. English name: not known
possibly *Plectorhynchus pictus*

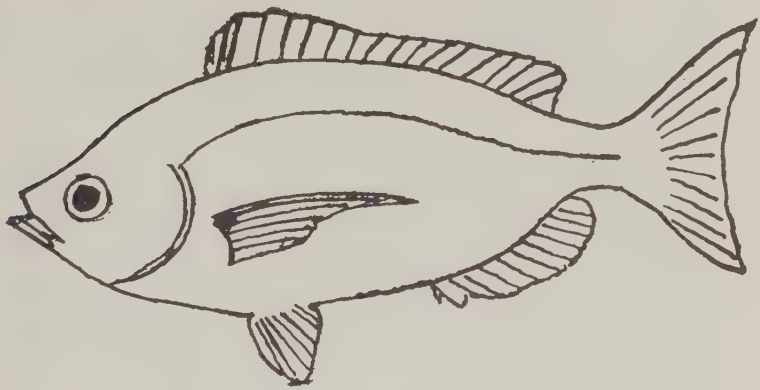


Greyskin—*Plectorhynchus griseus*—Kinyuchi
Uniform washed out dark grey whitish bars



Scavenger—*Lethrinus...nebulosis*—Njau
Olive green, blue stripes and around eye.

Native name: *Kiua.* English name: Karanteen.
Crenidens indicus



Native name: *Chafi.* English name: Picarel(?).
Ptrasmeris axillaris

TROLLING

It has been found that the most satisfactory speed for trolling is about 6 knots with the bait some 30 yards behind the boat. Trolling can be carried out with a rod reel and line or with an ordinary hand-line. In the case of the rod and reel it has been found that 600 yards of 48-thread line with a breaking strain of about 80 lbs. will meet most circumstances to be encountered. Th ereel should be provided with a good check and brake and should be of as good quality as the fisherman, can afford, but it will be money well spent, for the better and more efficient the reel the more certainly there is of bringing the fish to gaff. Rods and reels however can now-a-days be very expensive; a good reel may cost anything up to £100, and with the tackle go harness, special belts with leather buckets to take the butt of the rod and other expensive items, so that rod-and-reel fishing is not within the reach of every one. For those who cannot afford this expensive tackle the hand-line is the substitute. Handlines are usually of what is known as cod line but this is difficult to get and it may be necessary to improve it. The African fishermen make up an excellent hand-line which they dress with shark oil but its manufacture is a skilled and laborious business and the men are naturally not very keen on selling their lines. The writer has found that a couple of rolls of green plaited blind cord makes a cheap and efficient hand-line which will not kink and will hold anything short of a whale.

A wire trace consisting of about 4 yards of suitable wire must be inserted between the line and the bait and it should be fitted with at least three swivels. Piano wire is often used but it is rather stiff and inclined to kink and the writer has found that one stand out of a light wire rope such as is used for rigging in yachts is very satisfactory. If a lead is used this should be fixed to the trace and not to the line for fish frequently attack and bite at the lead. With the hand-line it is best to keep it rolled in a ball and not to lay it in coils in

the cockpit. About 40 yards should be let out and the inboard end made fast with a slippery hitch to an awning stanchion or bollard so that when the fish strikes the line will run out easily. The ball will then begin to pay out and is much more easy to handle than a coil. Until the angler is accustomed to handling a hand-line gloves are advisable or he may friction-burn his hands quite badly.

The merits of hand-lines and rods and reels have been fully discussed by Lieut.-Commander Cole in No. 3 of this Journal. There is a great deal of glamour attached to rod fishing and there is also a very high degree of skill, but as has been remarked, the cost of tackle is very considerable and for those who cannot afford such tackle the hand-line is available. A great deal of skill and very considerable physical effort is required to capture a big game fish on a hand-line and the affair very often develops into a straight fight and trial of strength between the fish and the fisherman. Since the hand-line is used by all commercial fishermen it is unlikely that there is anything in the theory that more fish are lost by this method.

In the United States a great deal of attention has been devoted to catching large fish on very light tackle. No doubt this is a very high test of skill but perhaps not sufficient credit is given to the coxswain of the boat, for unless he also is highly skilled light tackle may well come to grief. Having regard to the rather indifferent boats available on this coast and to the inexperience of most of the coxswains it may be well to pause and consider whether in view of the need for catching as many fish as possible so that they may be examined and recorded in order to enlarge our present rather scanty knowledge it will be better to leave light tackle alone for the present.

BOATS. There is a scarcity of power craft suitable for fishing all along the coast. The majority of craft are the property of commercial firms or Government Departments and are not available for hire. The few craft which can be hired are normally employed in carrying passengers from ship to shore in the sheltered waters of the harbours and are scarcely suitable for expeditions into the open sea on the sea-ward side of the reefs where an engine breakdown may lead to disaster and possibly total loss. The scarcity of suitable craft is no doubt one of the reasons why the deep waters several miles off shore, where it seems probable that the large tunny reside, have not been explored, so that very little is known about the fish to be found there.

BAIT. It is not possible to offer much advice on bait for it varies from place to place but it may be taken as correct that of the artificial lures the feathered jig and the nickel spoon are most likely to be successful, while of the natural baits the squid is most attractive to almost all fish. Fortunately the squid is easily obtainable and after a little practice it is easy to spot him along the water's edge and to lay hold of him before he escapes. A little practice will be sufficient to learn how to turn him inside out, and to get rid of his load of inky fluid without getting oneself into a mess. The African fisherman usually chews him up to soften him but this is probably a not very necessary refinement.

In conclusion the writer would like to say that these notes are in no way intended to be a scientific study of the fish to be found in East African waters but rather as a handy reference to which fishermen can turn when in need of information about the size and shape and colour of the fish and the conditions under which they are likely to be encountered. As has been remarked, the information available is generally scanty and all fishermen are urged to record details of their catches and if in doubt over the identity of a fish to consult the fisheries experts. Mr. Copley of the Kenya Game Department is also very helpful and the writer would like to express his appreciation of Mr. Copley's help over a great many years. If fishermen can collate their records and publish them from time to time in *Tanganyika Notes and Records* there will be built up in a very short time a really comprehensive list of the fish to be found and their habits and migrations which will be on permanent record and available to our sons and grandsons.

The following headings for a log-book have been found to provide sufficient information without being too elaborate: Date, Place, Time, Fish, Weight Bait used. Rod or Hand-line. Depth of water, State of tide, State of sea, Strength and direction of wind, State of sky, viz: cloudy, overcast or clear. It is useful if it is recorded whether the fish was caught inside or outside the barrier reefs and the nature of the sea bottom in the case of hand-line fishing on the botton.

SPOONFISHING IN THE MAFIA GROUP

By D. W. I. Piggott

(Reprinted from Tanganyika Notes and Records No. 12)

The best general description of spoonfishing on the Tanganyika coast is given in Lieutenant Cole's article in the third volume of *Tanganyika Notes and Records* (1937). These notes are supplemental to that and also deal with Mafia reefs in rather more detail. They are the result of a year's fishing in 1940, mostly with handlines.

The Mafia Channel provides perhaps the best fishing for number and variety of fish on the whole tropical East Coast of Africa. The shallow waters with numerous reefs provide shelter and food for a large fish population and there is every variety of conditions. The largest fish and the biggest catches are to be found at the continental shelf edge on the extreme east of the group however, and it is probable that any one only out for record size would find few advantages here over other centres, except at Miewe.

Handlines were used because they are cheap and provide a bigger catch and more variety than can be obtained with a rod. No fish was encountered that proved too heavy for a good handline though two fish, each probably well over sixty pounds in weight, were lost through a fault in the line and too light a hook (the standard six-inch Wilson hook was straightened right out). The largest fish caught was seventy-three pounds and was landed without great difficulty.

Numerous devices were tried but it was found that simplicity paid over all the gadgets. Various types of roller or drum were used but it was found that in a hard rush the roller overran the line and was liable to foul it. Briefly stated, the following gear in good condition and skilfully used will land all fish properly hooked which are likely to bite in a depth of from two to ten fathoms of water: one hundred and fifty yards of stout native cotton fishing-line in one piece, six feet of trace wire ("piano wire" was used) and a 5½-inch "Record" spoon (heavier than the Wilson spoon and obtainable in Nairobi at C. A. Heyer, Ltd.). The total cost of these is just under fifteen shillings and with a few spare traces will last nearly a year of ordinary fishing. The chief tips for preserving the gear in the best condition areasfollows. The line is wiped over every few months with light engine oil to keep it pliable; it may then last for years if used sparingly. The native preservative for lines becomes brittle after a time and the line weakens unless oiled. The piano wire trace and spoon must be removed from the line as soon as fishing is over and greased carefully. The point of the hook is occasionally honed on a carborundum stone and the swived replaced when worn. A single strand of piano wire, replaced every month or so, is quite adequate but at the first sign of kinking or rust corrosion must be replaced. It was found safer to use twin piano wire twisted together for heavy fish as it is less liable to kinking when bringing the fish on board. This tackle was used for days of really serious fishing, but on safari by motor-boat fish were caught regularly without accident using an eighty-yard line and an ordinary light six-inch Wilson spoon with one strand of piano wire. I am rather of the opinion that the finer and longer the race wire the better the chance of bites. A trace over six feet long, however, is difficult to handle. The line must never be put away wet.

The end of the line must be made fast either to the boat or to a drum which can be cast overboard (an attractive idea but very seldom used). The next stage is the most important of all: the line must be coiled down in the bottom of the boat so as to run quite freely without knots or catching under floorboards. It is best to coil it down in three piles, a reserve of backing at one side, the main line of fifty yards for playing the fish and twenty to twenty-five yards of line to be run out for trolling. It needs an expert, usually a native fisherman, to keep the line in condition so that it will lie in easy coils on the floor without twisting up.

One of the best knots to use for attaching the swivel and trace is the bowline, which never jams. The trace has a swivel at each end and the eyes of these must be examined for chafing on the steel trace wire.

A useful dodge to avoid the weight of the heavy line is to take a small bight or loop of the line at the hand and to pass it in front of some projection or through an eye-hole on the boat. This bight is then brought back beside the line running out astern and is twisted round it once or twice. The inboard part is then held in the hand and the slightest jerk will free the bight which immediately pulls through

the eye and runs freely from the hand. Stout leather gardening gloves are the best protection for the hands but pieces of canvas folded over and over are quite satisfactory as long as there is no twist or knot in the line to pull them away at the critical moment. Bare hands are dangerous.

There are a number of useful rules in the playing of a fish which the beginner is likely to forget in the excitement of having a good fish on the end. It is not normally necessary to strike but it is important to try to maintain a steady even pull whatever the movements of the fish. The first rush must be checked according to circumstances of the moment and the size of the fish; if it is a rock cod or if it sets off towards shallow water or any point where it cannot be followed then every effort must be made to stop it. Apart from such emergency measures, and the need to stop a really heavy fish before all the line has gone, it is advisable to play the fish gently and patiently.

Instead of concentrating all attention on the line in the water it is as well to prepare for the landing by moving into such a position as to allow the man with the gaff room to get into place. Also a quick look round the boat to see that the line is not getting fouled is worth any amount of visual concentration on the fish, whose movements can quite well be judged by feel. Always remember there is plenty of time and that the first rush is always the worst. In the meantime the engine is cut to slow and the cox steers away from the reef and turns continually to keep the fish on the same side of the craft, abeam if possible. When the fish is under control and the gaff ready I find it best to stand amidships and bring the fish alongside the boat astern. If the fish is tired there should then be no difficulty in gaffing it first time and, with barracouda especially, this may make all the difference between a catch and a lost fish. It is well to act on the assumption that every fish only retains the hook by the pull on it; about ten per cent of the fish spit out the hook at the moment of gaffing leaving no margin for error; barracouda usually do. A final point as it comes over the side is to see that the trace wire is not being kinked

It is instructive to see just how each fish has been hooked. Apart from foul-hooking it will be seen that there are only a few points where the hook penetrates the flesh properly and cannot be dislodged by the fish itself. It follows that many fish that come to the lure are able to bite on the hook and spit it out before the barb can take hold in a soft place. Many of these "bites" are not even felt on the line and to remember this point is some slight consolation after a number of tentative jerks without result; at least one knows they are to be expected.

A number of controversial points are introduced below as they all affect the success of fishing and a true knowledge can only be obtained by experience and the pooling of observations. They provide infallible subjects for discussion and, I think, their study is one of the most interesting sides of fishing. They also usually afford a scientific excuse for failure on an unlucky day, and to a fisherman that is a Godsend.

(1) *Lengh of line out.*—Twenty to twenty-five yards is a good average for a handline, more is very heavy on the hand and less might possibly be too short. When fish really are biting, even ten yards are quite sufficient, but it is not easy to be sure that the circumstances then are not exceptional. The theory is that the passage of the boat disturbs the fish and drives them laterally and downwards. After the has passed they return into the wake, perhaps from curiosity American owners have even plated their propellers as an additional attraction and there is no doubt that a motor-boat is always an object of some curiosity to fish. On a really calm clear sea it is possible to see the fish down to five fathoms or more and I have frequently observed *kolekole* and *kalambezi* of all sizes from the bows of the boat. My experience is that whereas the small fish run for shelter up to a distance of four fathoms or more, the larger ones take very little trouble to get out of the way and definitely take an interest in the craft without fear. I have had a spoon taken when barely more than the trace wire was hanging over the side and the spoon was just flopping on the water and a yard astern. The discussion could be prolonged indefinitely but as a practical rule it is well to tow the lure beyond the most marked disturbance in the wake of the craft. Boomed out laterally it would not need to be so far astern.

(2) *Significance of the lure.*—It is doubtful if many fish are deceived into believing the lure to the edible. Seen from below the lure would be a broad stumpy grey cone, moving point forwards, and flashing sparks of light. No fish can ever have looked like that but it must be extremely intriguing. If the fish approaches closely it must appear an unsubstantial object throwing off curious sharp currents of water. These affect the lateral line sensory nerves of the fish which are designed to detect small changes in pressure on the skin. The natural tendency is to take a bite at the novelty and a fish always takes its prey from the side or from the rear. Thus the mouth is likely to meet the hook on its rotation, or by some fluke the hook may catch in an eye-socket instead. Even the tail may be caught as the fish turns away. Experience has shown that brass spoons are rather better than nickel ones but so far they are not on sale at the usual retailers. For general all-round use a spoon seems to be the most efficient lure. Some people add another hook from the head of the spoon for fish taking it from the side.

(3) *Speed of boat.*—It is generally agreed that for ordinary fishing round reefs four to five knots is the optimum speed and at over seven knots there is seldom a bite. This is not because the spoon is travelling too fast for the fish. I have caught two-pound fish at six kuots. Probably the best speed is governed by two factors. The boat must be going fast enough to spin the lure correctly but it must not be travelling so fast as to take the lure out of sight of the fish before it has had time to take an interest. In general few fish are nearer than fifteen feet from the lure when they notice it, hence a dirty sea reduces the catch.

If at the moment when they see it the lure is ahead of them and travelling at seven knots, they will probably have to do fifteen knots

to catch it up quickly. Unless the water is very clear or the fish very interested it will not trouble to investigate at all. A little irregularity in speed is often useful; fish are frequently hooked just when pulling in the line as the boat slows down. Usually a line is pulled in in a series of rushes and this is probably the reason for the bite. A boat travelling in a sea frequently catches more fish going with the sea than against it. This may be because she surges forward on the crests of the waves and then slackens.

(4) *Weather.*—In general fishing is better when there is rain about, and a slight breeze is better than a flat calm or heavy weather. A heavy sea drives the larger fish away, sometimes for days. In general clear water is a good sign whereas very opaque water is the worst possible sign. I believe that the fish most commonly caught on a spoon do not stay in opaque water, quite apart from the difficulty in seeing the, lure. The smaller fish are less affected than the large, possibly because they are not so dependent on good visibilitty to see their natural food. Opaque water is often due to bad weather but it is also caused by alterations in current which allow delta water, or water from the estuaries of Mafia itself, to reach the fishing ground. When fish are biting well a flat calm is often no handicap though it ought to be a disadvantage as the boat and line must be more clearly visible.

(5) *Time of day or tide.*—Early morning and late afternoon are generally best and spring tides better than neaps. I prefer a rising or a falling tide to high or low water, but in spite of careful statistics it has not been possible to correlate the catch with these factors at all accurately. Clearly other factors are of even greater importance. It is probable that were fishing done regularly and systematically some general trends could be proved. It seems that time of day, or perhaps light intensity, are of most importance and about sunrise and sunset certainly seem best. Nevertheless, owing to force of circumstances most of my fishing is done on safari between eleven o'clock in the morning and five o'clock in the evening and many good fish have been caught in the heat of the day.

(6) *Type of bottom.*—Sand or sand with weed on it are useless for spoon-fishing though bottom fishing often produces results in the weed. Coral provides by far the best terrain for good fishing, whether on the steep edge of a reef or over a flat surface just covered at low water springs. There should be at least two fathoms of water over the coral when fishing and up to five fathoms is satisfactory. The optimum depth is usually about three fathoms, when the bottom can just be clearly distinguished. A visit to these grounds at low water on a really calm day is a revelation of beauty which enthralls the most hardened fishermen. It also provides a lesson in the habits of fish which well repays half an hour's rubber-necking over the side of a motionless boat. The profusion of fish of all sizes and colours and their fearlessness is sufficient to show why the large predators find it so good a hunting ground.

Off a steep edge, such as an outside reef, it is not a question of the actual depth but rather of the distance from the reef which counts in fishing. It is best between twenty and fifty yards from the reef according to circumstances, the closer the better. This is one of the occasions when a heavy sea is no bar to good fishing and some excellent catches can be made on long stretches of the continental shelf edge with a good boat in a strong swell. If rollers are breaking heavy it is possible to judge the exact point where they begin to break and to fish in the safely zone just outside this dangerous surf. Needless to say the craft must be absolutely reliable for this kind of work.

(7) *Temperature and current.—Monsoons.*—Small coral fish live in an astonishingly wide temperature range but the larger carnivorous fish taking a spoon are sharply restricted. It is probable that a great deal of the variation in catch from day to day is due to alterations in current bringing different water to the reefs or to changes in the amount of sunshine which have affected the temperature of the water. Partly for this reason the outer reefs bordering on the continental edge and with really deep water beyond are the most reliable fishing grounds of all; their temperature hardly varies from day to day.

There is a seasonal variation in current due to the monsoons which probably affects fish migration along the coast. The east coast of Africa is swept by a regular oceanic current from the south which never alters in direction off the continental edge. This current also sweeps through the Mafia Channel, though the shallow water and the effect of tides tends to obscure it. Off Ras Kisimani on a rising spring tide in the south monsoon the current may reach a velocity of three to four knots. At other times it may be barely noticeable.

The enormous quantity of suspended matter coming from the Rufiji Delta is carried northwards out of the Mafia Channel and the actual mouths of the river have turned northwards, also probably under the influence of this current. Thus the reefs in the Mafia Channel are swept clear of coastal water and the coral is able to grow in the oceanic water it requires. The current is helped or hindered by the monsoons and its temperature varies also; thus it has a dominant effect on the migratory movements of the larger fish. The important point is not the actual direction or intensity of the current because the fish travel both with it and against it every year. Daily temperature records, both in shallow water and in the Indian Ocean, would be of great value in determining the real effect on fish migration. It is an interesting and important point that fishing is nearly always best off that end of the reef which is first struck by the current, usually the south end.

The best fishing season in Mafia is from early December until March, though the actual dates are largely controlled by the monsoon. This is the season for a great variety of fish over most of the reefs and is undoubtedly the time for any visitor who wishes to do intensive fishing. However, during much of January and part of February the north-east monsoon blows so hard that fishing is out of the question

and the safest time is at the beginning of the long rains, late February, when the monsoon is on the change. If the rains are delayed and the sun is very strong day after day, the water inshore becomes too hot and local fishermen say that the big fish will only return when the rain (and overcast sky) has cooled it again.

Fishing is at its worst from May to August and all that can be expected then is the occasional kingfish and barrocouda. Furthermore, the fish are spread out and are not found in known places round the reefs. Both kingfish and barracouda can be caught occasionally almost anywhere in the Mafia Channel at this time, but kingfish are also commonly found inshore round Mafia Island. Terene Bay and off Kanga, at the north of the island where the mangrove swamp runs into the sea, are both possible fishing grounds at this time when few other places offer much sport. It looks as if the kingfish are feeding in the water that runs out of the mangroves, whether because of the food or a suitable temperature range, however, is uncertain. During this time it is worth trolling with a spoon in any part of the Mafia Channel and I have caught a number of kingfish from dhows when on safari.

From the beginning of September the monsoon begins to change back to north and takes three months to do so. During these three months the weather is good and kingfish are plentiful in certain parts. Undoubtedly the best ground is off Fungu Sefu and here fishing dhows collect from all around and a number even come from Zanzibar every year just for this season. Two hundred or more kingfish is not an unusual catch for a boat during the three months.

FISHING GROUNDS

These are dealt with from the point of view of fishing from November until April only, the best time normally being February and March. It must be remembered that unless the contrary is stated the best fishing is off the south of any reef and in a small strip of water two to four fathoms deep.

Ras Mkumbi.—This offers the best all-round fishing in the neighbourhood of Mafia. It begins rather late, however, as the fish seem to arrive first in the more sheltered and shallower waters of the channel. The best catches are made off the extreme end where the reef comes to a point but fishing is good right down to Bweni on the western side and for an indefinite distance on the eastern, or continental edge, side. More *kalambezi* are caught on the west, and on the east more fish of the rock cod type. Bweni beach is a safe anchorage for fishing in this area. On the 6th January, 1940 I caught fourteen fish of two hundred and eighty pounds here in less than two hours on one line; the north-east monsoon was not very strong that year and perhaps fishing was better that usual.

Nyororo Island.—A very dispersed and confusing reef but an excellent fishing ground and offering more variety than most other places. It is difficult to give details of the best spots but the north and

west are generally found to be good. There is good water on the island and a satisfactory sand-bottom anchorage on the western side. The craft must be anchored close in as the sand turns to coral at low-water mark, so it is advisable to arrive on a fairly full tide.

Barakuni.—Poor fishing obtainable on the east and south of the reef. British warships were anchored off here during the *Königsberg* episode in 1915.

Mwamba Mkuu (opposite Barakuni).—One of the most reliable spots and with a long fishing season starting early. The fish are found on the narrow seaward edge facing Barakuni on a two-mile length. On the whole the fish are small; *kolekole* and *pandu* are particularly found there and are rare elsewhere round Mafia.

Wumi Patches.—Only visited once and, except at low-water springs, very difficult to find as the reef does not uncover. It is advisable to go only on a calm sunny day when the reef can be seen as a greenish patch from up to half a mile away; compass bearings should be taken on Kilindoni bluff and Shungu-mbili Island. It was visited in early March and only produced kingfish; a remarkable result worth confirming. Reported as shark-infested.

Fungu Sefo.—Perhaps the best known reef and usually reliable, but not always. It is rather isolated and personally I find it hardly worth the trouble as there are fishing grounds as good nearer to Kilindoni. From September to November, however, it is good for kingfish. It is worth trying past the Salim bank buoy when going to or from the reef.

Tere Reef.—Close to Kilindoni, but disappointing. The best circuit is "round the buoys"—anchorage buoy, spit buoy and Terene buoy. When all else fails a buoy will often yield a good fish if the spoon passes really close to it.

Al Hadjiri.—Not very good and rather a vague fishing area. Nothing is caught over the sandy part. Shark seem particularly to favour this reef.

Maduvi (native name "Chooni").—A good fishing ground at times and worth trying in conjunction with Ras Kisimani and Belami reefs. All the fishing is concentrated in a small area just south of the prominent sandbank.

Ras Kisimani.—Usually a good reef, but disappointing in 1941. The fishing area is along the edge of deep water from a mile north of the sandspit due south along the reef running offshore. The fishing suddenly stops at a slight projection in the reef about a mile south of the point. Here there was a school of barracouda infallibly providing a bite or two throughout 1940. The bites were all recorded in a stretch of water about two hundred yards long.

Belami Reef.—The most prolific reef of all in February and March 1940 but with a short season. It is particularly noteworthy for *kalambezi* (one of seventy-five pounds on the 25th February, 1940). The fishing is over the top of the reef which does not normally uncover.

Boydju Island.—The fishing round Boydju reef is poor.

Kauri.—Apparently useless.

Marima.—Quite good on one visit but needs investigation.

Mange.—Quite good off the south end but rather out of the way from Mafia.

Tutia.—Not visited but Cole states that it is excellent.

Chole Channel.—Provides an occasional *kalambezi* or kingfish one to two miles south-east of the Utende-Chole ferry.

Chole Bay.—Apparently useless.

Kinasi Pass, between Miewe Island and Juani.—Probably the most promising area in which to achieve records but only usable in excellent weather. The best fishing is in the pass itself and for a mile or two along the reefs north and south in the Indian Ocean. The reef is fantastically steep, one hundred fathoms are recorded less than a mile from the cliffs and the shore is extremely inhospitable. Shark abound in the entrance and really large fish also. An 81-lb tunny was caught here by Commander Blunt in January 1939. The snag is the tide rip in the pass which runs at about ten knots through the narrow channel in springs and would stop all but the most powerful craft moving against it.

As there is no shelter whatever outside, the expedition should only be made in really fine weather and March to April is best. Chole Island is a good base with a suitable anchorage and a rest-camp at the old German *boma* and headquarters. My best two fish were lost here, though neither was seen; one broke a faulty line and the other straightened the hook in its first rush. These tragedies both occurred on the same day, the only day when I had the opportunity to fish here. However, twelve fish were caught in three hours, of five varieties totalling one hundred and sixty-three pounds.

SWAHILI TERMS

Handline: *Mshipi (mi-).*
Hook: *Ndoana.*
Wire trace: *Waya.*
Pliers: *Koleo.*
Bait: *Chambo.*
Small bream used as bait: *Koana.*
Net: *Wavu.*
Transom-sterned native sailing boat: *Mashua.*
Pointed-sterned native sailing boat: *Dau.*
Neap tide: *Maji mafu.*
Anchor: *Nanga.*
Chain: *Mnyororo (mi-).*
Rudder: *Usukani.*
Tiller: *Kana.*
Keel: *Mkuku.*
Side: *Ubavu.*
Plank: *Mbau.*
Mast: *Mlingoti.*
Windward: *Joshi, juu.*

Larger cargo-carrying native sailing boat: *Jahazi.*
Outrigger canoe: *Ngalawa.*
To become aground, dry out ashore: *Kupwea, Kupwelea.*
Spring tide: *Maji makuu, bamvua.*
Leeward: *Demani, chini.*
Wave: *Wimbi (ma-).*
To bump bottom: *Kugonga chini.*
To fall (tide), also means to become dry: *Kupwa.*
To rise (tide): *Kujaa.*
To float: *Kuelea.*

NOTE.—Natives pay little attention to actual high or low tide and have no simple terms for these states of tide. They think in terms of tides rising or falling. The Swahili or Mohammedan month, being lunar, gives an immediate indication of the tidal conditions. Full springs occur on the second and sixteenth of the month and on any given day of the month high tide is at roughly the same time each month.

MEMOIRS OF AN ARABIAN PRINCESS.

By Sir John Gray.

The title of my article is the title of a book, which was originally published in German in 1886 and was subsequently translated into English and French. The authoress describes herself as "Emily Ruete, Née Princess of Oman and Zanzibar." It is regarding her that this article is concerned. As, however, certain statements in that book are open to correction, I venture to tell the story in my own words.

As the authoress informs us, she was born at Beit-el-Mtoni, a house some six miles to the north of the town of Zanzibar. The date of her birth was August 30, 1844. Her maiden name was not Emily Reute. Contemporary documents show that it was once Suleima or Salima, or Salme. She at one time signed herself as Salima but she appears generally to have been known as Salme. Her full name was Seyyida Salme binti Said bin Sultan El Busaidiya. I could carry her pedigree further back than that, but the genealogy just given suffices for our purposes. Her father was Seyyid Said bin Sultan, ruler of Oman and Zanzibar and the first of his dynasty to make the latter place his residence.

Her mother was a Circassian named Jilfidan, who had been captured in war and enslaved when she was a mere infant. At a very tender age she had come into the possession of Seyyid Said bin Sultan. When she grew older, she became one of his many **Surias,** or secondary wives. As a **Suria** she acquired certain legal rights. She could not be sold or given away by her Master and she became emancipated on his death. Like every lawful wife of her Master, she had to observe the **Iddat** (temporary seclusion) of a widow and her children were regarded as legitimate and entitled to share in their father's estate in the same manner as his children by his legal wives. As a matter of fact Seyyid Said bin Sultan left no children surviving him by any legal wife, but at the time of his death eighteen sons and eighteen daughters by his numerous **surias** survived him.

Seyyid Said died in 1856. He was suceeded as ruler of Zanzibar by his son, Seyyid Majid, who was likewise the son of a Circassion **Suria.** Three years later, when Seyyida Salme was only fifteen years old, her mother Jilfidan died during an epidemic of cholera which swept through Zanzibar. Her orphaned daughter then went to live with a half-sister, named Khole, who was a few years older than herself. (2).

It was through Khole's influence that Seyyida Salme first became involved in politics. Seyyid Bargash had resented the election of Seyyid Majid in place of himself as ruler of Zanzibar. He had from the very beginning of the latter's reign been intriguing to supplant him. Khole was a close friend of Bargash. Her house in Zanzibar adjoined his and soon became the centre of political intrigue. These intrigues came to the ears of Seyyid Majid and the British Consul, Colonel Rigby. Custom prevented Seyyid Majid from personally interviewing his half-sister, but he sent a warning message to Seyyida

Salme, telling her that he was well aware that she was taking part in these intrigues. He warned her of the danger she was running, and begged her to desist whilst there was yet time. In her younger days Seyyid Majjid had shown his half-sister much kindness and he made his appeal to her on that score. But Seyyida Salme was very much under the influence of Khole. She was the youngest of all the conspirators. When at sixteen years of age one finds oneself condemned by rigid Arab custom to a humdrum and secluded life, one is tempted to hear a voice in every wind and snatch a fearful joy. It is rather flattering to be asked by one's elders to share in all the excitements of a first class conspiracy. So Seyyida Salme took no notice of Seyyid Majid's request.

But the conspiracy was badly bungled. Before the conspirators could strike, Seyyid Bargash's house was suddenly surrounded by the Sultan's troops. Barghash was told that he must leave Zanzibar and that he would be kept under watch and ward until he did so. The plans of the conspirators had to be entirely changed. It was decided that Barghash's partisans should rally at a house called Marseilles, which was situated about ten miles from Zanzibar and which belonged to the daughters of one of his deceased brothers. But the problem was how to get Barghash out of Zanzibar to Marseilles. Spies were known to be surrounding the houses of the conspirators and all the adjacent streets were thronged with the Sultan's troops. It was left to Khole and Salme to deliver him from his prison and they rose to the occasion.

On the night of October 6, 1859, the two left their house, accompanied by two nieces and a retinue of female slaves. They proceeded straight to Barghash's house. They were stopped at the door by the soldiers, whereupon Salme stepped forward and in her own words "complained in a loud tone of the unwarrantable indignity, and peremptorily ordered the captain to be called for". That officer arrived in due course and was dumbfounded when he learnt whom he was addressing. The poor man was subjected to the same indignant reprimands as his men, and after uttering a few feeble excuses, he allowed them to enter the house. Once inside, the conspirators hastily explained their plans to Barghash. After some demur he was persuaded to don feminine garments and then with Barghash placed between the tallest women, Khole and Salme left the house with their retinue in a most leisurely fashion, chatting to each other in what appeared outwardly to be the most unconcerned manner. Out of deference to the visitors' rank the Sultan's troops allowed them to pass without interference. They proceeded to the outskirts of Zanzibar, where Barghash got rid of his disguise and vanished in the direction of Marseilles. His rescuers then returned by devious routes to their homes.

Once again the conspiracy did not go according to plan. Reinforced by a detachment from H. M. S. **Lynx** the Sultan's troops moved on Marseilles and virtually destroyed the place in an artillery bombardment. Barghash fled back to Zanzibar. This time he had to make an abject submission and to consent to go to Bombay, where he remained in exile for the next two years. (3)

Khole and Salme had staked much in assisting Barghash to escape, but except for being more or less sent to Coventry for a time the consequence of their conspiracy were not disastrous. In so far as Salme was concerned, it was rather difficult to be angry with a sixteen-year-old girl, who had obviously been over persuaded by her elders and who only a year or two before had been the playmate of Seyyid Majid. For the time being she was given to understand that she was out of favour. During this period of ostracism she left the town of Zanzibar and went to live on one or other of the shambas which she had inherited on her father's death. Eventually, however, she made her peace with Seyyid Majid and came back to live in the town. (4).

At this date there was a fairly considerable European colony living in the town, consisting of Americans, French, Germans, and British, In 1866, shortly after Seyyida Salme returned to the town, the head of the British community was the Acting Consul, Dr. Edwin Seward, who had been attached to the Consulate as Agency Surgeon. His substantive post was being temporarily filled by a young graduate of Edinburgh University, named John Kirk. Amongst the German residents was a certain Heinrich Ruete. Writing of him at this date, Dr. Seward said he was "now a person of about eight and twenty summers, the son of a respectable German schoolmaster, (and) began life in the office of a Hamburgh merchant, completed his training for the East Coast traffic in Zanzibar, became a partner in the firm of Koll and Ruete, and subsequently the head, if not the sole representative, of the modest yet flourishing house of Ruete & Co. He has been adequately educated, speaks fluently two western tongues, French and English, besides his native German, is an intelligent and able man of business, and has.....borne a character for a very blameless life, at least so far as is known in Zanzibar". (5)

Seyyida Salme took up her residence in the house next to that occupied by Heinrich Ruete and despite the rigidity of Muslim custom in such matters they became closely acquainted. Then in the latter part of 1866 Seyyida Salme knew that she was going to have a child. She told her lover and he made arrangements to smuggle her on board the **Mathilde,** a German ship. At the last moment one of Salme's slaves disclosed her intentions, and the attempt was frustrated. (6) On receiving news of these proceedings, Seyyid Majid sent one of his female relatives to examine his sister and to report upon her condition. Wishing to save the Seyyida from the fate which seemed inevitably to await her if the truth became known, this emissary returned to the Sultan and withheld the truth. (7) But Seyyid Majid was not satisfied. He sent his sister a letter informing her that she had permission to leave Zanzibar on a pilgrimage to Mecca in a **begala** belonging to his chief eunuch. (8)

Other girls in the like condition as herself had been sent on similar voyages, but none of them had ever reached their destination Seyyida Salme was aware of this. She knew only too well that her

brother's command was tantamount to passing sentence of death. In a distracted state she went to the wife of the British Consul. (9) Mrs. Seward decided that this was a matter regarding which her husband must learn as little as possible, but she also decided to consult the Agency Surgeon, Dr. Kirk, and he got in touch with Captain Pasley of H.M.S. **Highflyer,** which vessel happened to be in harbour at the time.

The Waswahili and the Wahadimu, inhabitants of the island of Zanzibar, use the ancient Persian calendar of three hundred and sixty five days. The first day of that year is known locally as **Nauruzi** or **Siku ya Mwaka.** On the night of **Nauruzi** it is the custom for every one (and more particularly for women) to bathe in the sea; praying for good health during the coming year.(10) In 1866 **Nauruzi** fell on August 24. and it was decided to try to smuggle Seyyida Salme out of the island that night.

Accordingly after dark Seyyida Salme made her way down to the beach accompanied by two female slaves. As she appeared to be about to participate in the ceremony of the day, this proceeding exicited no comment. Possibly a few bystanders may have wondered why the slaves were carrying a couple of boxes, but none of them had sufficient curiosity to ask the reason. If any of the bystanders had noticed that a boat from H.M.S. **Highfiyer** was beached near by, they did not in any way associate the fact with the Seyyida's movements. A few minutes later one of the slave girls was heard running away from the beach and shrieking at the top of her vocie. Again, this roused no suspicion. There was a good deal of horseplay at the time of **Nauruzi** and it was no body's particular concern to know why a slave girl was shrieking.

Next day it was seen that H.M.S. **Highflyer** had left her anchorage. She had sailed during the night witrout giving the usual notice as to her departure either to the British Consul or to the Arab authorities. Other inquiries elicited the fact that Seyyida Salme had not returned to her house that night.

Consequently a rather perturbed British Consul wrote to the Political Resident at Aden to inform him that "it is confidently reported that Princess Bibi Suleyma, half sister of His Higness the Sultan, left Zanzibar in Her Majesty's Corvetta **Highflyer,** in which vessel she had clandestinely obtained a passage" and that both vessel and lady were believed to be on their way to Aden. (11)

That was an official letter. About the same time Dr. John Kirk wrote an unofficial letter to Miss Helen Cooke (whom he was soon afterwards to marry):—

> "The **Highflyer's** departure has given us something to talk about. Paslev has taken off poor Bibi Salme in his ship. She'd have been killed, I think, sooner or later, had she remained..... .....I am told she got into the cutter, taking down all her boxes of dollars safely. and springing into the boat, although it was manned by infidels. Her two servants, who knew nothing of the affair, screamed. howled, and roared, as women will do; but a bluejacket covered the mouth of one and lifted her **nolens**

> **volens,** to follow her mistress. The other unluckily got clear away, bellowing up the street.....Some blame the English Consulate — as if ships of war were under us; I'm sure no man is more innocent then poor Dr. Saward." (12)

Seyyid Majid wrote a letter of protest to the British Consul, but readily accepted Seward's assurance that Captain Pasley had never informed him of his intentions. It was only a formal protest written out of deference to public opinion. The real truth was that the Sultan was most profoundly relieved by what had happened. Salme was a favourite sister and he personally wished her no harm. But public opinion demanded that he should wreak a terrible vengeance for this tarnishing of the family's good name. He was therefore extremely gratified when Captain Pasley put it out of his power to satisfy public opinion. When the Captain returned a few months later to Zanzibar, people were somewhat astonished to see that the Sultan gave him a most friendly reception. (14)

All the same Seyyida Salme's subsequent conduct did not please her brother. In Islamic law he was her guardian and event at Aden he regarded her as still being under his tutelage. He accordingly sent a message to her saying she would be permitted to return to Zanzibar. whenever she desired to do so, but she must not leave Aden without first consulting his wishes. He further sent a message to the Political Agent earnestly requesting "that the lady shall on no account be permitted to leave for Hamburg, or be allowed on any pretext whatever to have intercourse or correspondence with any European or English speaking European or English speaking German who may visit Aden." (15 But in the words of Dr. Seward, "the Bibi, a person of character, appears to have resolved on her future path in life." (16) The Political Resident at Aden could only report that

> "Every effort has been made to induce the Bibi Suleyma to quit her present quarters and adopt a more secluded life. But I regret without avail: indeed I have endeavoured to work upon the lady's feelings through the most respectable Arab families residing in Aden (that of the Aidroos and others) and have offered her a private apartment and establishment, but the Bibi seems determined to adhere to the step she has taken and to renounce her former life entirely and become Europeanised. To use her own words, she cannot, she says, after wearing the dress of Europeans revert to Arab dress, nor will she certainly for the present quit Mr. Mass' house. Under the circumstances further attempts would be useless." (17)

Bonaventura Mass, in whose house Seyyida Salme was living, was a Spaniard and had once resided in Zanzibar, but he had had to leave there hurriedly because of his participation in the slave trade. Mrs. Mass, to the best of my belief, was quite a respectable person. "Here", afterwards wrote the Seyyida, "I patiently waited for my intended." Many letters passed between them, but she had to wait nine months, whilst he arranged his affairs in Zanzibar. On the morning of May 30, 1867, Heinrich Ruete reached Aden. "Mean-

while", wrote his future wife, "I had been instructed in the Christian religion; my baptism — with the name of Emily — took place in the English Chapel at Aden, being immediately succeeded by the marriage ceremony according to the Anglican rite." That very same afternoon Heinrich and Emily Ruete sailed for Hamburg. (18) About two months previously a public concert had been given in Aden. The organiser had sent Seyyida Salme a complimentary programme printed on silk and accompanied by a covering letter addressed to "Her Royal Highness the Princess of Zanzibar". She took the programme, letter and envelope with her to Hamburg in remembrance of the days gone and she kept them until her death.

During their brief spell of married life Heinrich showed himself to be a devoted and affectionate husband. His wife, for her part, did her utmost to adapt herself to her very changed surroundings, but it proved a by no means easy task. In Zanzibar she had had a large household of domestic slaves and other attendants at her beck and call and had been treated with all the diference due to a member of the ruling family. The humdrum life led by her as the wife of one of the many ordinary business men residing in the vast city of Hamburg meant a complete and shattering break with everything that belonged to the past. The transformation of Seyyida Salme binti Said El Busaidiya into Frau Emily Ruete was not easy to accomplish. As was said of her by one who knew her as a middle-aged woman, she remainded "always an exile in spirit". She had donned European garb when she reached Aden, but to the very end of her life she retained and treasured an Arab dress which she had been wearing at the time of her flight from Zanzibar. In those early days there was always at the back of her mind the hope that the storm cloud would roll by and that one day both she and Heinrich would be allowed to return to her native land.

At the end of their first twelve months of married life his wife's nostalgia led Heinrich Ruete to contemplate returning to Zanzibar. Very wisely, he sounded a German resident in Zanzibar before taking the final step. The friend equally wisely sounded the British Consul, Mr. Churchill. The latter's reply was unequivocal. Heinrich Ruete appeared to fail to realise that during his last few months' residence in Zanzibar his life had been in immediate danger and that he had now aggravated his offence in Arab eyes by inducing a member of the ruling family to apostasise from Islam. "For the interests of your house and your trade, "Churchill wrote to his correspondent, "Mr. Ruete had better keep away from Zanzibar." When Seyyid Majid heard of the proposal, he at once wrote to the German Consul giving him to understand that Heinrich Ruete's return "would be a source of displeasure both to me and to the Arabs in general on account of his recent unjustifiable conduct and I must therefore beg of you to write to your government to prevent his coming; and if he should happen to reach Zanzibar before receipt of your letter by your government, not to allow him to land in our port in any way to reside therein." He even objected to Heinrich Ruete sending an agent to wind up his affairs, but was eventually persuaded to allow the agent to enter Zanzibar and also to allow his sister to realise the

property which she had left in his dominions. But his protest against the husband's return was accepted. Heinrich Ruete was given to understand that he would not receive consular protection from the Government of the North German Confederation if he returned to Zanzibar. (20)

So Emily Ruete had to reconcile herself to the fact that she would in all probability never return to the land of her birth. She resolved to make the best of the matter and to begin life again in her husband's country. The marriage appears to have been a very happy one. Then in 1870 Heinrich Ruete met with a tram car accident and died as the result of his injuries, leaving his twenty-six-year-old wife to face the world in a foreign land with an infant son and two infant daughters. Her husband had been fairly well off when he died, but about two years later it was discovered that the guardian of his children embezzled most of their property. This and the increased cost of living following upon the Franco-Prussian War made it, in Kirk's words, "difficult for her to educate her children, as she would desire and maintain the position she now assumes."

Whilst he was living Heinrich Ruete had protected his wife from much which she had to endure after his death. She was a foreigner living in a society with a distinctly parochial outlook. The presence of her husband has shielded her from a certain amount of unfriendliness, which came quickly to the surface now that he was gone. This feeling of xenophobia was, moreover, aggravated by Emily Ruete's own conduct. No doubt, when first she arrived in Hamburg, something of the aura of an oriental princess had surrounded her, but very naturally that quickly disappeared. In her endeavours to counter the marked unfriendliness which was now being displayed towards her by a number of uncharitable people, she kept reminding them that in her own land she was a princess of the royal blood and treated with the respect due to her rank. From this time forward she also made a habit of subscribing many of her letters as "Emily Ruete, born Princess of Oman and Zanzibar". As was only to be expected such conduct only added fuel to the hostile fire. In the circumstances therefore it is not surprising to learn from her that "complete aversion seized me towards the place where I had once know so much happiness, especially as among some of the people of the town I was not treated with that civility which was perhaps my due." So she shook the dust of Hamburg from off her feet and removed to Dresden. A year or so later she removed to Rudolstadt, where she was befriended by the Ruling Prince of Schwarzburg-Rudolstadt. (21)

Shortly after her husband's death Emily Ruete had written to Seyyid Majid asking for leave to return to Zanzibar and for an allowance to be paid to her. Perhaps Majid never received her letter for he died on October 7, 1870. (22) He was succeeded by his brother Seyyid Barghash and Emily Ruete felt that the new Sultan must surely show his gratitude to her for the assistance which she had given him eleven years before. She accordingly renewed her appeal to him, but met with no satisfaction. It was not that Seyyid Barghash was ungrateful, but he was the ruler of a Muslim country

and was himself a strict Muslim belonging to an extremely puritanical sect. Emily Ruete's conduct some four years before had brought disgrace upon a house, which exceedingly valued its honour. Perhaps time might have allowed this indiscretion to be forgotten or forgiven. Bue she had added to her misdeeds not only by marrying beneath hereself but also by renouncing the faith of her fathers. Perhaps the first of these offences could have been condoned now that her husband was dead, but apostasy from Islam was an unforgivable sin. Seyyid Barghash was largely dependent for his position upon certain groups of fanatical Muslims. His tenure of office would have been most insecure if it became known that he accorded any sort of recognition or help to his apostate sister. Even with the best will in the world Seyyid Barghash could have done little or nothing to help her.

Having failed with entreaties, Emily Ruete resorted to demands and couched her letters in terms ill-calculated to attain the objects which she desired. (28) Since her flight from Zanzibar a number of her brothers, and other relatives had died and she now claimed that under Muslim law she was entitled to receive a share of their estates. Here again, as she must undoubtedly have known, the law which she invoked declared that an apostate from Islam could take no share in the inheritance of a deceased Muslim. But by this time Emily Ruete had got in touch with influential circles in Germany, to whom the role of the Christian convert, who was the victim of Muslim intolerance made a very strong appeal.

In 1872 the German Consul at Zanzibar was asked to use his influence with Seyyid Barghash on the behalf of Emily Ruetess, but he could only report that the Sultan declined to discuss the question. On several occasions during the next two years the Consul was told to try to induce a change of heart in the Sultan. On each occasion he had to report that he had met with no success. As he subsequently told Kirk, "he well knew that nothing but active pressure and the fear of consequences in case of refusal would induce His Highness to recognise his sister and her children, or give them any assistance." (24)

In 1874 the German Foreign Office decided to invoke the good offices of the British Government on behalf of the widow. On May 27 of that year the British Foreign Office wrote to Captain Prideaux, acting Consul at Zanzibar, of instructing him to give any unofficial support he might be able to afford to any renewal of the German Consul's application. Amongst other things, the letter stated that "the lady appears while in Germany to have obtained the respect and esteem of all who know her"—a statement which was undoubtedly true. But this renewed application met with no more success than the earlier ones. At the end of the year Ernest II, Duke of Saxe Coburg Gotha, addressed a personal appeal to Seyyid Barghash on her behalf, but this met with no greater success than any of its predecessors.(25)

In 1875 Seyyid Barghash went to England and his sister decided to cross over to London and endeavour to obtain a personal interview

with him. She tells us that she had two months in which to prepare for the journey and during that time she employed herself in learning former British Consul at Zanzibar, General Rigby. Marrying late in life, Rigby and his wife had on their honeymoon visited the newly wed Emily Ruete at Hamburg in 1867. Eight years later, as Emily Ruete acknowledges, "in my need I turned to them, and I never had to regret it. Both sacrified themselves generously on my behalf."(26)

John Kirk had accompanied Seyyid Barghash to England. He was instructed by the Foreign Office to get in touch with Count Munster, the German Ambassador. The Count handed Kirk a letter from Emily Ruete with a request that it should be delivered to the Sultan. After perusing the letter, Kirk informed the Count that "it was one I could not present as it was couched in language that would only induce its rejection, and contained a defiite demand as of right for a large sum of money." The letter was accordingly returned and the Count undertook to get it replaced by another in more fitting language. After this strong pressure was brought to bear through for his sister. The matter was also mentioned in a friendly manner to Seyyid Barghash by Kirk and Dr. Badger, a distinguished orientalist who was known to have the Sultan's confidence. The Sultan declined to discuss the subejct or to have any communication with his sister. He gave Kirk to understand that, if he wished to remain his friend, Kirk must never return to the subject again. As Kirk said, "his reasons for so doing are sufficiently obvious to any one acquainted with oriental life and the obligation upon a Mohammedan ruler, such as he is, subjetct to the opinion of his subjects." But those reasons were not so intelligible to persons who were not acquainted with Arab life and who regarded Emily Ruete as an unfortunate princess who was suffering for her religion's sake. Seyyid Barghash was not invited to the royal enclosure when Queen Victoria attended the Ascot races and the Duke of Cambridge gave Kirk a dressing down. On the other hand, the Prince of Wales asked Kirk to see him and explain matters, and expressed himself convinced by what he was told. (27)

During this visit to London Emily Ruete also met Sir Bartle Frere. Subsequently, she inveighed very bitterly against him, alleging that he had deliberately advised her on a course which defeated all her aspirations. I have only been able to discover her version of that interview. As a check of so many other of her statements shows that she is not entirely to be relied upon, I feel that an attack by her on the character of a man with the reputation of Sir Bartle Frere must be accepted with very considerable reserve. In any event Emily Ruete never seems to have realised how impossible her aspirations were. She complained that Sir Bartle Frere persuaded her not to attempt to seek a personal interview with her brother. Even if Seyyid Barghash had been in the wrong — and legally he most certainly had right on his side — such an interview could only have led to a scene. The Sultan of Zanzibar was a distinguished visitor to England and the laws of hospitality demanded that he should be preserved from such a contretemps.(28)

ledgment received was a request that, should I ever be asked if these letters had been received, I would say they had — there was no reply". (29)

At the end of 1876 the German Consul was instructed to represent to the Sultan that his sister was in very reduced circumstances and to invoke Dr. Kirk's aid in trying to induce him to relent. The inevitable answer was received. The Sultan was unwilling to assist. (30)

Emily Ruete tells us that after this last rebuff she felt utterly exhausted both in body and mind and that she ceased to believe that she would ever live to see her children grow up. "I do not think," she afterwards wrote, "that I should ever relate to them verbally the happenings of my youth and the course of my fate. Hence I determined to record my story on paper. My memories were not at first intended for the general public, but for my children, to whom I wished to bequeath them as a heritage of faithful motherly love." The story occupied several years of writing and, as will be seen, she was eventually persuaded to publish it. (30A)

For the time being Emily Ruete's name appears to have dropped out of official correspondence. During that time, however, she managed to persuade very highly placed personages to interest themselves in her children. Amongst others the German Emperor, William I, made provision for her son's education. Another person who took Emily Ruete under her patronage was the Emperor's daughter-in-law, Victoria, the wife of the Crown Prince Frederick

Emily Ruete therefore had to return to Germany without seeing her brother and without attaining her object. At Count Munster's suggestion she re-wrote the letter for delivery to Seyyid Barghash. This was not handed to the Sultan by Kirk until they had reached Zanzibar — possibly because no opportune moment occurred for its delivery to him whilst he was in England. At the same time Kirk handed to the Sultan "a very proper appeal" by the Khedive of Egypt on behalf of Emily Ruete. In Kirk's words "the only acknow-William and daughter of the Queen of England. There was no political motive behind the patronage of either of these persons Emily Ruete's story appealed to them and they were ready to help her financially. She also kept up a somewhat intermittent correspondence with friends and relatives in Zanzibar, but the number of these began to dwindle and in a letter of September 30, 1884, she complaied that she had "had no news from home" for the past two to three years. (29A)

In about 1883, signing herself "Salima binti said," Emily Ruete addressed a long letter to Seyyid Barghash. Once again she made a plea for reconciliation and for permission to return to Zanzibar. But the letter also contained other remarkable passages.

> "Do not think", she wrote, "that here in Europe we are not received with honour, for all in Europe have given me and my children honour and respect, and the Emperor of Germany and

his family are kind to me. I have been many times to visit them, and the Emperor himself has taken my son Said, and placed him in the High School, and in time he will become an officer in the army in the same manner as the sons of Kings of Europe according to their custom."

".....Also, my brother, I wish you to know that the English seek for nothing but to destroy your power and prestige in your kingdom.....You in Zanzibar cannot understand or know what is passing in Europe. When I was ignorant of their language and their ways, I could not understand their affairs. Now I speak German and English as well as Arabic, and I have learned their arts and customs.....God knows I desire nothing but to do you good through what I have seen and known of the ways of Europe.....We can enlightend you on many questions....."

"Moreover, if there is anything you wish translated with the Emperor of Germony, I can approach him in person and speak with him on the subject, for he has talked often with me."

"By God, my brother, I am your natural adviser, and I wish of God that you pardon me for what is past. You yourself know that none are perfect or without a stain throughout the universe but God only."

"Remember, too, how strong is death, which will take us in a few years, when there will be no survivor of the children of our father in the world. If you pardon us, the Emperor of Germany and his family will be very pleased, but more especially the wife of his son, the daughter of the Queen of England, who for long has been most kind to us. She inquires every time I see her if you are still displeased with me, and she is very sorry when she knows that you have not relented."

"I was with her a little time ago, and she said she wished to ask my son Said to her palace. This will show you the honour in which we are held here in Europe....."

"Now, my brother, before closing this letter, it struck me to call upon the Crown Princess of England (sic), the daughter of Queen Victoria. She mentioned that she herself had written to you through the English Government asking as a personal favour that you grant me peace and love. I hope to God you will not turn away her request and bring disgrace upon yourself before all the people of Europe, for this, indeed, would be a great disgrace. I beg you to look into this and think well over it before you give a reply to the Lady Victoria. Above all do not disclose the secret of what I have written regarding the English Government....."

"May God soften your heart towards us; this will bring no loss to you; do not blind yourself. The Princes will be glad if they know you have forgiven me. I am up to this time a widow. I have no one but God and my three children.....I ask you

in the name of God to keep secret what I have told you regarding the English; I have mentioned it only out of my deep love and concern for you". (31)

At the request of the Crown Princess of Germany the British Government instructed Kirk to make another attempt to induce Seyyid Barghash to consider his sister's claims. Kirk took a favourable opportunity to broach the subject only to be met with an absolute refusal. In the course of their conversation the Sultan informed Kirk that he would have utterly refused to enter into any conversation whatever with anybody else on the subject. (31A)

A year later Emily Ruete grasped eagerly at what appeared to be a real chance of getting her claims satisfied! For many years Bismarck had set his face against a German policy of colonial expansion. Eventually he came round to such a policy more or less in defence to the strength of popular of opinion. After his conversion it became clear that the Chancellor had his eyes on East Africa amongst other parts of the globe. Emily Ruete therefore decided to approach him direct. On June 17, 1884, she wrote to Bismarck, explaining what her claims were and asking for his support. She promised that in return for that support she could be of material assistance to the German Reich in East Africa. At the same time she explained that as a result of her experience in 1875 she had learnt that it was quite impossible for her to get her claims settled through the ordinary diplomatic channels. She therefore asked that she might be sent to Zanzibar in a man-of-war so that she could make a direct approach to her brother. Her proposal appealed to Bismarck. He accordingly gave instructions that the Admiralty should be approached with inquiries as to whether a vessel could be supplied for the purpose. (32)

At the same time Bismarck not unnaturally wanted to get as full information as possible about political affairs in Zanzibar. He was referred to Dr. Otto Kersten, who had accompanied Baron von der Decken in his exploration in East Africa and who for close on twenty years had been a zealous advocate of German expansion in those regions. On August 3, 1884, Kersten sent a most interesting reply to Bismarck. British political interests were paramount in Zanzibar and the British claimed the right to nominate the Sultan. But if Germany were to pursue a more energetic policy in those regions, she could very soon take the first place. If, as Dr. Kersten believed, the Chancellor "was seriously thinking of a German-Zanzibarite dynasty, there was the excuse of the connection which Frau Ruete had with Sultanate for making this an essential matter in his policy towards Zanzibar". (32A)

The suggestion met with Bismarck's entire approval. He was proposing in any event to send warships to Zanzibar so as to ensure that certain projected negotiations with Seyyid Barghash would be carried out according to plan, but Kersten's proposal suggested a second string to his bow. Frau Ruete's son had a German father and was himself a German citizen. The possibility of a German Sultan

of Zanzibar was well worth considering. After all, Seyyid Barghash might not prove amenable to reason. In such case it would be expedient that somebody else should be made Sultan in his place.

Emily Ruete was accordingly sent for to Wilhelmstrasse. It was one of those cases in which it was not desirable to commit anything to paper. She was informed that she would be allowed to go to Zanzibar without any preliminary negotiations. The strength of her position would lie in the fact that German intentions had not been disclosed and in the absence of such a warning the English would be unprepared. She would be allowed to proceed in a warship, but the whole matter was to be kept closely concealed. (33)

At the same time instructions were given to the Admiralty for a corvette to be provided to take Frau Ruete to Zanzibar. The movements of the corvette were to be kept as secret as possible. The vessel was to proceed to the Mediterranian and Frau Ruete was to embark at some port in southern Europe. The corvette's crew were not to be told anything about their destination for the purpose of the voyage. The Commander himself was only to be informed as to his destination in his final instructions and it was only on arrival at Zanzibar that the purpose of the voyage was to be disclosed. (34).

General Caprivi was at this date at the head of the German Admiralty. He raised certain queries as to matters arising out of Bismarck's instructions. In reply Bismarck stated that "the negotiations with the Sultan would be undertaken by the German Consul or by the Commandant; if Frau Ruete should be killed or ill treated, the Commandant would be authorised and would in duty be bound to take measures or reprisal. If the Sultan should reject his sister, the Commandant had power to compel him." As Bismarck's secretary and confidant, Lothar Bucher, said at a later date, "this was to be the starting point of the scheme. She was to go out to Zanzibar and press her claim, and an accident might possibly occur to the lady—her brother might have her strangled". In such case a German naval squadron would be able to cope with the situation.(35)

For various reasons Emily Ruete's journey to Zanzibar was delayed for close on twelve months. During that interval Bismarck began to devise other ways and means for the extension of German influence in East Africa. The proposed change of plan would entail an alteration in the opening of the game. A gambit, which might lead to the sacrifice of Frau Ruete, appeared no longer to be necessary and Bismarck began to regret that he had ever made any promises to the lady. She was accordingly told to wait and at the same time was given to understand that Gerhard Rohlfs, a distinguished African explorer and a friend of Bismarck's sons, was being sent on a warship to Zanzibar as Consul General on a special mission and that he would approach the Sultan on her behalf. Rohlfs reached Zanzibar in the last day of January, 1885. As a consular officer, he was not, from the German point of view, entirely a success. He was recalled a few months later because, in Herbert Bismarck's words, his Goverment could not trust him to be tactful. During his brief

sojourn in Zanzibar he did nothing for Emily Ruete, who on April 22, 1885, wrote to Frau Rohlf to complain of her husband's inactivity.

"Madam,

"I received your kind letter of March 15 via Meran and I am thanking you for it. I notice from your letter that your husband so far has done nothing direct on my behalf; and everything you say, dear Madam, has been known to me; and it was because I realized that only with the aid of force could I succeed, that I appealed at the time for the assistance of the Reich. This (assistance) I enjoyed until your husband was appointed to accompany me in the capacity of a professional Consul. He, however, was of a different opinion as to the approach to my problem; he will, surely, by now have realized that my own idea to surprise my brother was the better scheme, and all the more do I hope that now he will try to do everything to help me reach my aim. In the meantime I do not want to remain inactive and I will try what can be done through Berlin. It is incredibly painful for me to see that I might go empty handed after having made such great efforts....."

"Only a most **determined** attitude on the part of your husband on my behalf is likely to lead to success. All other diplomatic discussions would be in vain! I have never counted on the love of my irreconcilable brother, since as a Christian and a German — as which I have the courage to appear before him — I cannot even think of love! I am asking you kindly to inform me, if possible, by the next mail of any further steps your husband may take.

'With kind regards also for your husband.

"Yours E. Ruete".

As said in the letter, Emily Ruete tried at the same time "what could be done through Berlin." She wrote direct to Bismarck. On May 13, 1885, the Chancellor replied, saying "I have tried to dissuade you, and I do so again today, because **vis a vis** the Sultan, your brother, I cannot offer to you the protection of the German Reich in all circumstances in the future." But Emily Ruete had been promised a passage to the land of her birth and she insisted on the fulfilment of that promise. Eventually Bismarck decided to fall in with her wishes. There was no longer any need to sacrific her in the opening gambit. She had been warned that she might be running a risk and she must take the consequences, if she did so. At the same time Bismarck realised that this particular pawn might be useful at a later stage of the game. He therefore did not want to lose her in one of the opening moves. So he wrote to the Consul General at Zanzibar in the following terms;

"Frau Ruete is for us solely an excuse for making demands upon the Sultan. We cannot compromise State interests for the sake of her fortune or her *beaux yeux*. Just as military force may be necessary for dealing with the Sultan in regard to other

matters, so also the German citizeness Ruete and her rights are a useful argument for us in the justification of the use of force. So long as Frau Ruete comes back with our ships, it does not matter if her brother does nothing *à l'amiable* towards her. If the English honestly support us in Zanzibar, then we shall have no necessity to use force and then we shall not be willing to endanger for the sake of his sister the Sultan's friendship for Germany, for which we are striving." (36)

Eventually in July, 1885, Emily Ruete proceeded overland with her three children and a governess to Trieste, whence they travelled by Lloyd Trestino boat to Alexandria. Thence the family proceeded to Port Said, where they embarked upon the naval supply ship *Adler* as, in Emily Ruete's own words, "secret cargo." The *Adler* then proceeded in a somewhat leisurely fashion down the Red Sea and, after spending five days in Aden, sighted the island of Zanzibar on August 3, 1885. Without entering the harbour she hoisted mysterious signals and then retired to the north of the island, whence a boat was sent with an officer in mufti to get in touch with the German Consulate. During the next four days the *Adler* hung about off the north end of the island. Somehow or other the operation was not going according to plan. Synchronisation was apparently at fault. On August 7 five German men-of-war under the command of Commodore Paschan dropped anchor in Zanzibar harbour. The *Adler* then steamed in and also dropped anchor, but she still held little or no commuication with the shore. On August 19, Sir John Kirk, the British Consul-General, sent a boy on board her to sell oranges. The boy returned with the information that Bibi Salme had returned to Zanzibar with her three childen. That same day the *Bismarck* dropped anchor in the harbour, flying the broad pennant of Rear-Admiral Knorr. He had come to take over from Commodore Paschen the control of the "friendly negotiations" which were to be conducted with Seyyid Barghash under cover of the guns of five German men-of-war.(37)

Kirk telegraphed all this news to Lord Salisbury. As he intimated to the Foreign Secretary, he was inclined strongly to advise the Sultan to dispose of his sister's claims by payment of a lump sum in full satisfaction of all demands—past, present and future—but, as he also wrote, "I much fear, however, His Highness will reply before giving me a chance effectually to influence his decision, and this is a matter of too delicate a nature for me to introduce of my own initiative to an Oriental Prince, whose views on anything concerning his female relations are so entirely unlike ours .... It is just the one matter I find it most difficult to make suggestions in, and I have, as Your Lordship knows, before submitted the lady's case to His Highness without avail. Political consideration would lead me to use the influence I have to cut short all future claims, for I have always looked on this incident as a danger." In her *Memoirs*, the lady, who either did not realise or else had decided to forget the assistance given to her by Kirk nineteen years before, writes of the British Consul-General as the Sultan's evil genius. Perhaps if she had known of this and many other letters written by Sir John Kirk, she might have been less uncharitable.(38)

Unknown to Kirk, Commodore Paschen had already submitted Emily Ruete's claim to the Sultan on August 16. His letter was followed up a few days later by one from Admiral Knorr. Both letters were tactfully worded and declared that neither the writers nor their Government had any intention of meddling in the Sultan's affairs, but their instructions were to bring the lady's wishes to the Sultan's notice. Seyyid Barghash did not condescend to reply for several days. Then a curt note was sent to Admiral Knorr, which was signed by the Sultan's secretary and not by the Sultan himself. "Please be so kind," the message read, "as to excuse us because she left several years ago with somebody who is not of the like rank as ourselves." With those words the message ended.(39)

On receipt of this letter Admiral Knorr decided that, if the Sultan declined to recognize his sister, it was his duty to see that she was treated with the respect due to a German subject. He accordingly allowed her to come on shore daily under the escort of either himself or else one of his officers. Emily Ruete says she was enthusiastically received when she came on shore. In part this was doubtless true. She had the reputation of having been a kind mistress to her slaves and she also had a number of friends in the Sultan's harem, with whom she had kept up a correspondence from Germany. But there were others, besides Seyyid Barghash, who looked on her homecoming and her conduct on shore in a very different light. On September 13, Kirk reported that she was "being paraded daily in the town and even before the Palace by the Admiral or one of his officers.... The landing of this lady has been a great mistake. I can quite understand the Admiral's motives in so doing, but it is the act of a sailor, not of a diplomatist. Her presence is an outrage on Arab feelings little likely to help even her own cause." It is even said that on one occasion she and her escort, who may possibly have been the Admiral himself, were seen to be approaching the Palace whilst the Sultan was holding a *baraza* and that, fearing that his infidel sister might add to her many other offences, that of trying to intrude upon the meeting; Seyyid Barghash hastily dismissed the assembly.(40) For the lady's escort this parade in front of the palace must have been a distinctly humiliating affair. Veiled figures might wave to the couple from the windows of the harem, but in so far as the Sultan's own quarters were concerned not a single sign came therefrom to intimate to the officer or his companion that either the Sultan or any person in his immediate entourage was aware that the lady so much as even existed.

Up to this stage the other negotiations with the Sultan had been proceeding quite smoothly and had looked like reaching a successful conclusion at an early date. But the landing of Emily Ruete appeared as if it might put everything out of joint and completely upset the far more important negotiations with which the Admiral had been entrusted. The lady was therefore informed that her presence in Zanzibar was really doing her cause more harm than good and that it would be as well if she took her departure, leaving it to the Admiral to do his best for her. But Emily Ruete replied that "she could not return to Europe empty handed or abandon the present chance given to her by the German Government of pressing her claims." She then

proceeded to demand that she and her children should be allowed to take up their abode on shore. The Admiral then told her that he could not be responsible for her personal safety, if she did so, but she none the less insisted. She landed and took up her residence at the French Hotel in Zanzibar. Very fortunately, no regrettable incident occurred, but Admiral Knorr realised the risk of such an incident and cabled to Berlin for instructions. At the same time he and the German Consul-General endeavoured to induce the lady to arrive at a more amenable frame of mind. An appeal was made to her better nature. It was pointed out to her that it was obvious that there was no immediate prospect of effecting a reconciliation between her and Seyyid Barghash and that, for the sake of her children, it would be far better if she confined herself to seeking compensation in respect of her claims as an heiress of a sufficient amount to secure the future of her children. This she evidently agreed to do. On October 4, 1885, after she had spent ten days on shore, she was induced to embark on a French ship leaving for Europe on an understanding that the German Government would see that her pecuniary claims were fairly examined.(41)

Admiral Knorr asked Sir John Kirk for his assistance in settling those claims. Emily Ruete herself had assessed them at 100,000 dollars or about £20,000. She furnished written particulars as to how this sum was made up. Certain of the details might have shocked a number of her supporters in Europe, including the Crown Princess of Germany. They included compensation for "all male slaves of the house, added many female slaves with full attire," whom she had left behind on her hurried flight from Zanzibar nineteen years before. But as readers of Emily Ruete's book were to learn a year later, the writer was utterly opposed to the emancipationist policy which the British Government was pursuing in Zanzibar. In any event Admiral Knorr realised that the sum total of her claims was extravagant and offered to accept £6,000 in full satisfaction thereof.(42)

Kirk realised that it was desirable that Seyyid Barghash, for his own sake, should agree with his adversary quickly and urged him to tender £6,000 on condition that a proper assurance was given that no claims, past or future, should ever again be revived, either in the name of Madame Ruete or of her children. Though Seyyid Barghash ill brooked any advice in a matter which so nearly touched his family honour and his religion, he was anxious to have peace and quiet and, if money could purchase it, he was ready to pay in moderation. But not a single pice would pass out of his hands into those of his apostate sister. Out of the friendship he bore the German Emperor he was ready to make him a present of a sum of money and the Emperor could do what he liked with it. "We do not recognise," he wrote to the Admiral, "that this woman has any rights, because she has been guilty of a shameful act in regard to all her relatives and all people .... She asks for her inheritance according to Muslim law. The law in question allows her nothing because she has abandoned her religion and is separated from us. So according to the Muslims she is entitled to absolutely nothing. Now, if His Majesty the Emperor wishes for anything from us, that will be something which will in no way be mixed

up with this matter; but on account of the friendship, which exists between us two, it will be another matter, in regard to which His Majesty can rely on me to do all he requests, for I am fully assured that no separation can ever take place between us two." (43)

All, however, that Seyyid Barghash was ready to place at the Emperor's disposition was a sum of six thousand rupees, or about £500. All that Admiral Knorr could do in the circumstances was report the offer to Berlin and ask for instructions, at the same time intimating to the Sultan that he did not think the sum offered would be accepted. As on November 20, 1885, Seyyid Barghash had signed the desired treaty with Germany, Wilhelmstrasse was for the time being not vastly interested in the rights or wrongs of Emily Ruete's case. At the moment further representations on her behalf might prove most inopportune, but the pawn had not been sacrificed and might still be able to make a useful move in the diplomatic game. So Admiral Knorr received instructions "to accept provisionally the sum of six thousand rupees which Your Highness has offered so as to please His Majesty." As Kirk pointed out, this provisional acceptance clearly implied that the German Government was reserving to itself the right to revive the whole of the claim, whenever it might seem desirable. "After what the German Government has now done, it might well be doubted whether a proper discharge would have been given, but the Sultan has thrown away the chance he had of testing their good faith." (44)

But Seyyid Barghash was not the only member of his family who threw away chances When his sister was informed that the German Emperor had agreed to accept six thousand rupees provisionally on her behalf, she refused to accept the money. In her *Memoirs* she says her brother offered this sum "as a total settlement." That statement was undoubtedly true and, if she was given to understand by the German Government that it had been accepted only as a provisional settlement, she was also given to understand that for the time being, at any rate, that same Government was not prepared to press her demands any further. In the circumstances therefore it is perhaps understandable that she should have rejected the offer, but after events showed that, from her own point of view, she had not been very wise in so doing. "The best laid scheme of mice and men gang aft a-gley," but men—and in particular diplomats—are not overpleased with those who make their schemes gang a-gley. Very clearly this particular pawn could not be relied upon to make the proper moves in the game at the proper time. She was accordingly given to understand that the German Government was not prepared to lend any further support to her claims.

Thereafter, in order to supplement her income, Emily Ruete decided to publish the story of her early life. Her book was first published in 1886 by a Berlin firm under the title of *Memoiren einer arabischen Prinzessin.* In 1888 it was translated into English and published in both London and New York. A French translation was issued from Paris in 1905. Despite all these editions, the book seems to have attracted little attention at the time and soon fell into obscurity. The authoress was writing in a foreign tongue and she had not got a very facile pen.

Seyyid Barghash died on March 27, 1888, and was succeeded as Sultan by his half-brother, Seyyid Khalifa bin Said. Emily Ruete decided that she would go to Zanzibar and make a personal appeal to the new Sultan. When her intentions became known at Wilhelmstrasse, a letter went out to the German Consul-General at Zanzibar informing him of her intended voyage and giving him to understand that the German Government did not intend to give any official backing to her appeal.

Accompanied by a daughter, Emily Ruete arrived at Zanzibar on May 14, 1888, and took up her residence at the German Hospital. Enquiries at the German Consulate gave her speedily to understand that she could expect no official assistance in that quarter. She then addressed two letters to the Sultan, asking for permission for her daughter and herself to reside in Zanzibar. Seyyid Khalifa bin Said wished neither to accede to her request nor to refuse it absolutely, and took advantage of the fact that the month was Ramadhan to abstain from replying to either letter. In the meantime a number of Arabs came to visit her at the German Hospital and she was also able to get in touch with certain of the ladies of the harem of the late Seyyid Barghash. These latter informed her that, if only she could induce the British Consul-General to interest himself, all her difficulties would disappear. So Emily Ruete turned to the representative of that nation of which she had only recently had many hard things to say in her *Memoirs*.(46)

Colonel Euan Smith, the British Consul-General, has left an account of his meeting with her. "Madame Ruete, who was dressed in mourning, and in the height of European fashion, spoke in broken, but very intelligible English. She said she had come as a widow lady and mother of three children to solicit my assistance in endeavouring to obtain recognition and support from His Highness the Sultan. She informed me that she had spent and risked almost everything in coming to Zanzibar, in the hope of obtaining something from His Highness. She made no actual claim on His Highness, she trusted only to his generosity..... Her chief desire was to be reconciled to the Arab members of her family, with the ladies of which she was in constant and daily correspondence. They were all willing to receive her, and she would like to remain with her family at Zanzibar (though, in reply to a query of mine regarding the proposed reconciliation, she stated that nothing would ever induce her to enter a harem again). Madame Ruete finished by asking whether she could be received as an English subject under the protection of Her Majesty's Agent and Consul-General."

Colonel Euan Smith had to explain to her that he could not undertake in any way to interfere on her behalf, but that, if the Sultan spoke to him on the subject, he would recommend him to make her an allowance on condition that she lived elsewhere than in Zanzibar. He told her plainly that "her continued residence in Zanzibar would, I knew, be a constant source of pain and trouble to His Highness, and she herself must be aware of the fact." She was also informed by him

that, under the circumstances, it would not be possible that she should be registered as an English subject.(47)

Some time later Seyyid Khalifa bin Said inquired of the Consul-General what had transpired at this meeting. Euan Smith informed him and also advised him that, as at any time his sister's presence in Zanzibar might become politically inconvenient, it would be well to make her a suitable allowance "on the distinct written condition and promise that she relinquished, on her own and on her children's behalf, all future claims of every description on His Highness, and that she quitted forthwith His Highness's dominions."

The Sultan at a later date promised to consider Euan Smith's advice, but nothing else transpired in that quarter. On July 2, 1888, Emily Ruete, "born Princess of Oman and Zanzibar," addressed a long petition to William II, who had just succeeded his father as Emperor of Germany. Next day she wrote a letter to the German Consul-General, begging him to take up her case as a private person, if he could not do so in his official capacity. Nothing came of this last letter. As for the petition to the All Highest, that young man was on bad terms with his mother and a protegée of hers was not likely to find favour in his sight. In any event he had no immediate need of her services. For some three months Emily Ruete lingered on in Zanzibar, hoping against hope that somebody would do something for her. Then funds began to run out and on October 4, 1888, she sailed from the land of her birth for the last time. Some of the ladies of the late Sultan's harem made her presents of money, but the Sultan himself refused to relent.(48)

The remaining years were spent in restless wanderings from place to place. For a time Seyyida Salme lived at Beirut. In about 1890 she was back in London trying to enlist the help of some English friends. On this occasion she stayed with the widow of General Rigby, who had befriended her on her visit to England fifteen years before. Recalling this visit, the daughter of her hostess said: "I remember her well—a devoted mother before everything, charming, pretty, worn, fragile, pathetic, always an exile in spirit, always a princess in the gentle dignity with which she bore herself." (49) Therein lay her appeal to so many people. To them she was a widow and an exile fighting for her children; and, despite all misfortunes, bearing herself with the dignity and grace of a woman of that race and station in life into which she had been born.

But the ranks of her sympathisers were beginning to thin. In 1890 William II dropped the pilot. Despite much head shaking from Bismarck, the young Emperor decided that the acquisition of Heligoland was worth the surrender of any rights Germany had hitherto enjoyed of making trouble for Great Britain in Zanzibar. The conclusion of the Anglo-German Treaty in that same year virtually destroyed any hope Seyyida Salme might reasonably have had of persuading the German Government once more to interest itself in her domestic affairs. Any further lingering hopes must have been finally dashed to the ground in 1896, when Khalid, the son of her half-brother Barghash,

sought an asylum with the Germans at Dar es Salaam after an unsuccessful attempt to seize the throne of Zanzibar. Khalid's potential nuisance value was clearly far greater than his aunt's. So Seyyida Salme's dossier was left to accumulate dust in some pigeon hole in Wilhelmstrasse.

In 1901 Seyyida Salme lost a valuable friend by the death of the Dowager Empress Frederick. The first world war broke out when she was a woman of seventy and she had to endure the privations of the Allied blockade. The close of that war saw the total collapse of the mark and the consequent reduction of her private means to almost vanishing point. News of her plight reached Zanzibar. She was by this time the sole survivor of her father's many children. The generation, which had known her, had long since passed away and the generation, which had followed after, was able to forgive and to forget what had happened many years before. In 1922 His Highness Seyyid Khalifa bin Harub, the present Sultan of Zanzibar, bestowed a civil list pension upon her. But Seyyida Salme lived little more than a year to enjoy it. She died at her daughter's house at Jena on February 29, 1924, in her eightieth year.(50)

The very last sentence in her *Memoirs* quotes a line of Arabic poetry, which says:

> " How can a bird soar whose wings are clipped?"
> It was *le cri de son coeur.*

AUTHORITIES.

G.C.A.=Archives of German Consulate, Zanzibar.
Z.A.=Zanzibar Archives

(1) Ruete, E.—*Memoirs of an Arabian Princess* (1907, New York), pp. 1-10.
(2) Ibid, pp. 101-104, 174-175. "Khole, favourite daughter of Seyyid Said, was a woman of rare beauty and form. The eyes of Arabs are as a rule large and lustrous, but Khole's eyes were so fine that she was given the nickname of the Morning Star. It is related that a young Arab, taking part in some games before the palace, was observed staring up at one of the windows, all unconscious of the blood which gushed from his wounded foot. He had caught sight of Khole, and, overcome with the vision he beheld, had not noticed that he had pierced his foot with his lance." (Lyne—*Zanzibar in Contemporary Times*, p. 54.) Khole was also a woman of considerable strength and character. She stood by Seyyid Barghash both in fair weather and in foul. When he became Sultan, it was reported that she had great influence with him and was a real power behind the throne. Although according to Arab custom she had been brought up in the strictest seclusion, she none the less had many liberal ideas. She gave a warm welcome to the French Roman Catholic Missionaries on their first arrival in Zanzibar in 1860 and thereafter bestowed many presents on their Mission. (Horner—*Die Katholische Mission von Zanguebar*, pp. 44, 46.) She died unmarried shortly after 1875.
(3) Ruete.—*op. cit.*, pp. 179-189.
(4) Ibid, pp. 190-196.
(5) Seward to Bombay Government, April 30, 1867—(Z.A.)
(6) Ruete.—*op. cit.*, p. 200: Seward to Bombay Government, September, 1866—(Z.A.) This letter is unfortunately in a fragmentary state.
(7) Seward to Bombay Government, September, 1866—(Z.A.)
(8) Seward to Political Resident, Aden, August 27, 1866—(Z.A.)
(9) Ruete—*op. cit.*, p. 200: Kirk to Earl of Derby, December 11, 1876—(Z.A.), in which the writer says: "I had not only assisted her in effecting her escape when her life was in danger."
(10) Ingrams.—*Zanzibar: Its History and Its People* (London, 1931).
(11) Seward to Political Resident, Aden, August 27, 1866—(Z.A.)
(12) Coupland, R.—*The Exploitation of East Africa* (London, 1929), p. 46.
(13) Seyyid Majid to Seward, (undated —? September 2, 1866)—(Z.A.)
(14) Bombay Government to Commodore commanding Indian Division, Royal Navy, March 15, 1867—(Z.A.); India Office to Bombay Government, November 18, 1867—(Z.A.)
(15) Seward to Political Resident, Aden, September 3, 1866—(Z.A.)
(16) Seward to Bombay Government, April 30, 1867—(Z.A.)

(17) Political Resident, Aden, to Political Agent, Zanzibar, November 29, 1866—(Z.A.)
(18) Ruete.—*op. cit.*, p. 200; Political Resident, Aden, to Bombay Government, May 30, 1867—(Z.A.)
(19) Churchill to Carl Schriever, June 26, 1868—(Z.A.)
(20) Seyyid Majid to Consul of North German Confederation, May 18, 1867, June 25, 1868, and February 21, 1870—(G.C.A.)
(21) Ruete.—*op. cit.*, pp. 201, 202.
(22) Kirk to Earl of Derby, December 11, 1876—(Z.A.)
(23) Ibid.
(24) German Foreign Office to German Consul, Zanzibar, March 15, 1872, April 16, 1873, August 7, 1873—(G.C.A.); German Consul to German Foreign Office, August 12, 1872, June 16, July 4, and September 29, 1873—(G.C.A.); Kirk to Earl of Derby, December 11, 1876—(Z.A.); Jantzen, G.—*Ostafrika in der deutschen—englischen* Politik, 1884-1890, p. 21.
(25) German Foreign Office to German Consul, Zanzibar, May 4, 1874—(G.C.A.); T. V. Lister to Captain Pridaeux, May 27, 1874—(Z.A.); German Consul to German Foreign Office, July 11, 1874—(G.C.A.); Captain Prideaux to Earl of Derby, November 23, 1874—(Z.A.); Jantzen.—*op cit.*, p. 21.
(26) Russel, Mrs. C. E. B.—*General Rigby, Zanzibar and the Slave Trade* (London, 1932), pp. 308, 309; Ruete.—*op. cit.*, pp. 202, 203. Sir Lyon (afterwards Lord) Playfair, Deputy Speaker of the House of Commons, also interested himself in Frau Ruete's case. He was a brother of Colonel (afterwards Sir) Robert Playfair, Consul at Zanzibar, 1862-1867.
(27) Coupland.—*op. cit.*, pp. 336-338; Kirk to Earl of Derby, December 11, 1876—(Z.A.); German Consul-General to Bismarck, August 30, 1885—(G.C.A.)
(28) Kirk to Earl of Derby, December 11, 1876—(Z.A.)
(29) Letter of Emily Ruete to Countess Bismarck, September 30, 1884—(G.C.A.)
(30) German Foreign Office to German Consul, Zanzibar, September 15, 1876—(G.C.A.); German Consul to German Foreign Office, December 6, 1876—(G.C.A.)
(30A) Ruete.—*op. cit.*, p. ix.
(31) A translation of the letter was supplied to the Foreign Office by Sir John Kirk in 1888 and copy is preserved in the Zanzibar Archives. It bears no date, but internal evidence suggested that it must have been written in about 1883.
(31A) German Consul-General, Zanzibar, to Bismarck, August 30, 1885—(G.C.A.)
(32) Jacob, E. G.—*Deutsche Kolonial Politik in Dokumenten* (Leipzig, 1938), I, 99-100; Jantzen.—*op. cit.*, pp. 25, 26.
(32A) Jacob.—*op. cit.*, p. 102. In *Baron Carl Claus von der Deckens Reisen*, I, 113, Kersten gives a highly coloured account of Seyyida Salme's escape from Zanzibar in 1866. Other evidence shows that in this respect either Kersten relied on idle gossip or else he had a very vivid imagination.
(33) Jacob.—*op. cit.*, I, 101, 103; Jantzen.—*op. cit.*, pp. 26, 27.
(34) Jacob.—*op. cit.*, I, 103; Jantzen.—*op. cit.*, p. 27.
(35) Busch, M.—*Bismarck; some secret passage in his history* (London, 1898), III, 144; Jacob.—*op. cit.*, I, 103, 104; Jantzen.—*op. cit.*, p. 27.
(35A) The letter is now in (G.C.A.)
(36) Jantzen.—*op. cit.*, p. 42.
(37) Coupland.—*op. cit.*, p. 437; Kirk to Marquis of Salisbury, August 24, 1885—(Z.A.)
(38) Kirk to Salisbury, August 19 and 24, 1885—(Z.A.)
(39) Paschen to Seyyid Barghash, August 16, 1885—(G.C.A.); Knorr to Seyyid Barghash, August 22, 1885—(Z.A.); Seyyid Barghash to Knorr, August 27, 1885—(G.C.A.)
(40) Ruete.—*op. cit.*, pp. 216-220; Kirk to Salisbury, September 12 and 29, 1885—(Z.A.): It is often stated that Emily Ruete actually entered the Sultan's *baraza*, but Kirk makes no mention of it in his letters. If she had in fact committed such an outrage on Arab custom, Kirk would undoubtedly have reported the matter to the Foreign Office.
(41) Kirk to Salisbury, September 29, October 5 and 17, 1885—(Z.A.)
(42) Emilie Ruete to Knorr, October 13, 1885—(G.C.A.); Kirk to Salisbury, January 15, 1886—(Z.A.)
(43) Kirk to Salisbury, January 15, 1886—(Z.A.); Seyyid Barghash to Knorr, October 10, 1885—(G.C.A. and Z.A.)
(44) Kirk to Salisbury, January 15, 1886—(Z.A.)
(45) Ruete.—*op. cit.*, p. 224.
(46) Euan Smith to Salisbury, May 26, June 30, 1888—(Z.A.); German Foreign Office to German Consul-General, April 11, 1888—(G.C.A.); German Consul-General to German Foreign Office, June 2, 18888.
(47) Euan Smith to Salisbury, June 30, 1888—(Z.A.)
(48) Euan Smith to Salisbury, November 9, 1888—(Z.A.); Emilie Ruete to William II of Germany, July 2, 1888—(G.C.A.); Emilie Ruete to German Consul-General, Zanzibar, July 3, 1888—(G.C.A.); German Consul-General, Zanzibar, to German Foreign Office, November 20, 1888—(G.C.A.)
(49) Russel.—*op. cit.*, p. 309
(50) Hollis. Sir Claude.—*Seyyida Salme* (*Zanzibar Gazette*, September 3, 1927); Said-Ruete, R.—*Said bin Sultan.*

The Habitat-distribution of the Birds of Northern, Eastern and Central Tanganyika, with Field Keys.

PART III. THE BIRDS OF THE DECIDUOUS WOODLAND AND BUSHLAND *

By N. R. Fuggles-Couchman, M.B.O.U.

Although botanically the woodland and bushland habitats included in this section are very different, the birds are almost identical, the woodland being somewhat richer in species than the bushland. For this reason it has been thought best to combine the bird lists of the two types of country which are not easily distinguishable in some cases by the layman.

This section, therefore, covers the birds of a great part of the Territory as it includes the considerable areas of *Brachystegia* and other species woodland (*Miombo*) and *Acacia-Combretum* woodland to be found through so much of the Eastern, Southern and Western districts of the Territory, as well as the *Acacia* woodlands and *Combretum* bushlands of the Northern Province and elsewhere.

The woodland is found in areas of moderate rainfall, over 30 inches per annum, and does not include any of the *Acacia spirocarpa* (Umbrella Acacia)—Grasslands of the drier and semi-arid areas. It is characterised by a comparatively close stand of trees, 30 feet to 60 feet high, which are largely deciduous, with tall grasses growing beneath them. During the dry season great fires sweep through the grass and leave a blackened, desolate countryside, the trees, in their leafless condition, to all appearances dead.

The change which comes over the countryside after the first rains is miraculous, as grasses spring up, and, in many *Miombo* areas, the trees come into the autumnal colours of their new leaves. Within a very few days the reds and browns have changed to green and the woodland is once again full of bird song.

During the leafy period woodland is well populated by birds and fairly rich in species; during the desolate season birds seem few in numbers, many no doubt moving off to less ravaged areas.

With higher rainfall the woodland gives way to a more thickly wooded country in which the trees do not generally grow as tall as in

* This is the third part of a series of field keys of the birds of Tanganyika Territory, particularly of the Northern, Eastern and Central Provinces. Parts I and II have appeared in *Tanganyika Notes and Records* Numbers 33 and 35.

true woodland. They are more bushy, with several stems. Beneath the trees there is tall grass, and scattered thick clumps of scandent shrubs and small bush. Typical country of this sort occurs round the southern foot of Kilimanjaro, near the coast and round the Pugu Hills, but is to be found in all areas of better rainfall and better soils. It is rather dull bird country.

In both woodland and bushland there are really four types of habitat, the trees themselves, the tall grass, the scrubby bush and even patches of thicket, and the ground. Along watercourses—generally with only a seasonal flow—figs and the tall white-stemmed *Sterculia* stand out, the former providing food for several fruit-eating birds found in the woodland. Clearings for cultivation occur near perennial water supplies and attract certain seed-eating birds. Scattered in some woodland there are often palm trees on which the Palm Swift depends for nesting.

The *Acacia nigrescens* woodland is a slightly drier type than the *Miombo* and runs out into more thorny types of bush and woodland where the rainfall is lower. Birds of the drier areas are therefore sometimes found round the edges of *Acacia nigrescens* country, but have not been included in this section.

List of Birds

Migrant birds are marked with (M)

GROUND BIRDS.

Mixed diet.

Coqui Francolin	*Francolinus coqui*
Kirk's Francolin	*Francolinus rovuma*
Red-throated Francolin	*Pternistis cranchii*
Harlequin Quail	*Coturnix delegorguei*
Helmeted Guinea Fowl	*Numida mitrata*
Black-bellied Bustard	*Lissotis melanogaster*
Ground Hornbill (tree-nester)	*Bucorvus leadbeateri*

Insectivorous.

Senegal Plover	*Stephanibyx lugubris*
European Nightjar (M)	*Caprimulgus europaeus*
Fiery-necked Nightjar	*Caprimulgus fervidus*
Mozambique Nigthjar	*Caprimulgus fossii*
Pennant-winged Nightjar	*Semeiophorus vexillarius*
Flappet Lark	*Mirafra fischeri*
Golden Pipit	*Tmetothylacus tenellus*
Wheatear (M)	*Oenanthe oenanthe*

BIRDS OF BUSHES AND SHRUBS.

Mixed diet.

Little Purple-banded Sunbird	*Cinnyris bifasciatus*
Amethyst Sunbird	*Chalcomitra amethystina*
Scarlet-chested Sunbird	*Chalcomitra senegalensis*
Collared Sunbird	*Antreptes collaris*
Violet-backed Sunbird	*Anthreptes longuemarei*

Insectivorous.

White-browed Coucal	*Centropus superciliosus*
Little Bee-eater	*Melitophagus pusillus*
Arrow-marked Babbler	*Turdoides jardinei*
White-browed Robin-Chat	*Cossypha heuglini*
Morning Warbler	*Cichladusa arquata*
Spotted Morning Warbler	*Cichladusa guttata*
Boubou Shrike	*Laniarius ferrugineus*
Black-headed Tchagra	*Tchagra senegala*
Brown-headed Tchagra	*Tchagra australis*

Seed-eater.

Streaky Seed-eater	*Poliospiza striolata*

BIRDS OF TALL GRASSES AND SHRUBS.

Insectivorous.

Rattler Grass-Warbler	*Cisticola cheniana*
Trilling Grass-Warbler	*Cisticola woosnami*
Red-faced Grass-Warbler	*Cisticola erythrops*
Rufous Grass-Warbler	*Cisticola galactotes*
Striped Grass-Warbler	*Cisticola natalensis*
Tawny-capped Grass-Warbler	*Cisticola fulvicapilla*
Moustache Warbler	*Melocichla mentalis*
Tawny-flanked Longtail	*Prinia mistacea*

Seed-eaters.

Yellow-and-black Bishop	*Euplectes capensis*
Bronzy Manikin	*Spermestes cucullatus*
Rufous-backed Manikin	*Spermestes nirgiceps*
Grey-headed Silverbill	*Odontospiza caniceps*
Blue-bill Fire-Finch	*Uraeginthus bengalus*
Red-bill Fire-Finch	*Lagonosticta senegala*
Common Waxbill	*Estrilda astrild*
Red-cheeked Cordon-bleu	*Vidua macroura*
Pin-tailed Whydah	*Lagonosticta rubricata*

BIRDS OF TREES.

Mixed diet.

Hammerhead Stork	*Scopus umbretta*
Abdim's Stork	*Sphenorhynchus abdimii*
Hadada	*Hagedashia hagedash*
Spotted Eagle Owl	*Bubo africanus*
Pearl-spotted Owlet	*Glaucidium perlatum*
Grey Hornbill	*Tockus nasutus*
Crowned Hornbill	*Tockus alboterminatus*
Yellow-vented Bulbul	*Pycnonotus tricolor*
Golden Oriole	*Oriolus notatus*
Black-headed Oriole	*Oriolus monachus*

Carnivorous birds

Red-necked Kestrel	*Falco chiquera*
Dickenson's Kestrel	*Falco dickensoni*
Black-shoulered Kite	*Elanus caeruleus*
Wahlberg's Eagle	*Aquila wahlbergi*
Martial Eagle	*Polemaetus bellicosus*
Long-crested Hawk-Eagle	*Lophaetus occipitalis*
Lizard Buzzard	*Kaupifalco monogrammicus*
Bateleur Eagle	*Terathopius ecaudatus*
Gabar Goshawk	*Micronisus gabar*
Harrier Hawk	*Polyboroides typus*

Insectivorous.

African Cuckoo	*Cuculus canorus gularis*
Red-chested Cuckoo	*Cuculus solitarius*
Black Cuckoo	*Cuculus cafer*
Great Spotted Cuckoo (rare)	*Clamator glandarius*
Levaillant's Cuckoo	*Clamator levaillantii*
Black-and-white Cuckoo	*Clamator jacobinus*
Klaas's Cuckoo	*Chrysococcyx klaasi*
European Roller (M)	*Coracias garrulus*
Racquet-tailed Roller	*Coracias spatulata*
Lilac-breasted Roller	*Coracias caudata*
Broad-billed Roller	*Eurystomus glaucurus*
Brown-hooded Kingfisher	*Halcyon albiventris*
Grey-headed Kingfisher	*Halcyon leucocephala*
Striped Kingfisher	*Halcyon chelicuti*
European Bee-eater (M)	*Merops apiaster*
Madagascar Bee-eater (M)	*Merops superciliosus*
Carmine Bee-eater (M)	*Merops nubicus*
White-throated Bee-eater (M)	*Aerops albicollis*
Swallow-tailed Bee-eater	*Dicrocercus hirundineus*
African Hoopoe	*Upupa africana*
Kakelaar Wood-Hoopoe	*Phoeniculus purpureus*
Scimitar-bill	*Rhinopomastus cyanomelas*

African Scops Owl	*Otus scops*
Barred Owlet	*Glaucidium capense*
Black-throated Honeyguide	*Indicator indicator*
Golden-tailed Woodpecker	*Campethera abingoni*
Cardinal Woodpecker	*Dendropicos fuscescens*
Bearded Woodpecker	*Thripias namaquus*
Wryneck	*Jynx ruficollis*
Palm Swift	*Cypsiurus parvus*
Spotted Flycatcher (M)	*Muscicapa striata*
Pale Flycatcher	*Bradornis pallidus*
Black Flycatcher	*Melaenornis pammelaina*
Black-and-white Flycatcher	*Bias musicus*
Chinspot Flycatcher	*Batis molitor*
Black-headed Flycatcher	*Batis minor*
Yellow-bellied Flycatcher	*Hyliota flavigaster*
Arnott's Chat	*Thamnolaea arnotti*
Rock Thrush (M)	*Monticola saxatilis*
Red-backed Scrub-Robin	*Erythropygia zambesiana*
Black-breasted Bush-Warbler	*Apalis flavida*
Red-faced Crombec	*Sylvietta whytei*
Yellow-bellied Erememola	*Eremomela griseoflava*
Green-cap Erememola	*Eremomela scotops*
Short-wing Grass-Warbler	*Cisticola brachyptera*
Mosque Swallow	*Hirundo senegalensis*
Black Rough-wing Swallow	*Psalidoprocne holomelaena*
Black Cuckoo-Shrike	*Campephaga flava*
White-breasted Cuckoo-Shrike	*Campephaga pectoralis*
Fork-tailed Drongo	*Dicrurus adsimilis*
Southern Helmet-Shrike	*Prionops poliocephala*
Red-billed Shrike	*Sigmodus retzii*
Brubru Shrike	*Nilaus nigritemporalis*
Fiscal Shrike	*Lanius collaris*
Red-backed Shrike (M)	*Lanius collurio*
Puff-back Shrike	*Dryoscopus cubla*
Sulphur-breasted Bush-Shrike	*Chlorophoneus sulfureopectus*
Grey-headed Bush-Shrike	*Malaconotus poliocephalus*
Yellow White-eye	*Zosterops senegalensis*
Cinnamon-breasted Tit	*Parus rufiventris*
Black Tit	*Parus niger*

Fruit-eating Birds.

Green Pigeon	*Treron sp.*
Violet-crested Turacou	*Gallirex porphyreolophus*
Brown-headed Parrot	*Poicephalus cryptoxanthus*
Brown Parrot	*Poicephalus meyeri*
Speckled Mousebird	*Colius striatus*
Red-headed Barbet	*Lybius torquatus*
White-tailed Barbet	*Lybius leucocephalus*
Spot-flanked Barbet	*Tricholaema lacrymosum*
Red-fronted Tinker-bird	*Pogoniulus pusillus*
Levaillant's Barbet	*Trachyphonus vaillantii*
Violet Starling	*Cinnyricinclus leucogaster*
Blue-eared Glossy Starling	*Lamprocolius chloropterus*

Seed-eating Birds.

Red-eyed Dove	*Streptopelia semitorquata*
Ring-necked Dove	*Streptopelia capicola*
Namaqua Dove	*Oena capensis*
Blue-spotted Wood-Dove	*Turtur afer*
Yellow-throated Sparrow	*Petronia superciliosus*
Masked Weaver	*Ploceus intermedia*
Spot-backed Weaver	*Ploceus nigriceps*
Spectacled Weaver	*Ploceus ocularius*
Red-headed Weaver	*Anaplectes melanotis*
Mozambique Serin	*Serinus mossambicus*
Cabanis's Bunting	*Emberiza cabanisi*

Field Key

Main Divisions.

I. NO RED, VIOLET, BLUE, YELLOW, OR GREEN IN PLUMAGE:

A. Upperparts brown, from drab to chestnut ... p. 77
B. All black plumage ... ... p. 84
C. Black-and-white plumage ... ... p. 85
D. Slate or dove-grey upperparts ... ... p. 88
E. Pale brick red ... ... p. 91

II. SOME RED, VIOLET, BLUE, YELLOW, OR GREEN IN PLUMAGE.

A. Red in plumage ... ... p. 91
B. Violet in upper or underparts ... ... p. 92
C. Blue in plumage ... ... p. 93
D. Yellow in plumage ... ... p. 96
E. Green in plumage ... ... p. 99

Note on using the Key

A full note appeared with Part I. It is thought worth including in this part, however, a further note on how to find one's way through the key, as this is a much longer one.

The key has been divided broadly on noticeable colours. Thus, Section A contains all birds which have no bright colours such as red, blue, violet, yellow or green in the plumage or on the bare parts of the head. Those with such colours are included in the appropriate section.

Birds in each section are divided on other fairly obvious field characteristics such as the occurrence of black in plumage, the size of the bird, bill length, tail length relative to the body size, and so on. As an example, let us take a bird about the size of a thrush, with

yellow underparts, a little chestnut on the breast, a distinctive grey head and neck, and green in the back. This can be found in both the sections containing birds with yellow or green in the plumage.

Let us take the yellow section, II D. There is no yellow on the upperparts so that all subsections under the letter a, i.e. all letters having suffix i, ii, iii, etc., under a, are ruled out. Section b and its subsections are also ruled out because the yellow is not confined to the upperparts. But section c contains our bird, because the yellow is confined to the underparts. One now follows the letter with suffix i. a i is for birds which are more or less thrush size. Therefore our bird should be here. Follow letters with the suffix ii. a ii is no good as there is no red on the head. Look at b ii; this fits. Now follow suffix iii. a iii and b iii are no good as the whole underparts are yellow. c iii meets this condition, however, and the bird is the Grey-headed Shrike.

An asterisk is shown in some places, and means "more or less than."

I. NO RED, VIOLET, BLUE, YELLOW OR GREEN IN PLUMAGE

A. Upperparts, and wings, largely BROWN, drab to chestnut

a Entirely brown; large birds

ai Heavy backward-pointing crest. Long bill and long legs black — *Hammerhead Stork*

bi Slight pointed chest
Eagle-like, yellow feet and base of bill — *Wahlberg's Eagle*

b Upperparts mainly brown, underparts various

ai Conspicuous black in plumage, either on head, tail or underparts, often as a band or ring on throat or chest

aii Underparts entirely black. Large bird

Long-legged, long-necked. Conspicuous white in wing in flight; wings black-tipped. — *Black-breasted Bustard (male)*

bii Black forming a ring on throat or chest

aiii Long-legged bird of pigeon size

Forehead white; head, neck and chest grey; black band on chest; tail white with broad black ends to feathers — *Senegal Plover*

biii Small partridge shape; very short pointed tail

Underparts deep chestnut; white eyebrow, white chin and white ring below black ring on throat; black 'whisker' stripe — *Harlequin Quail (male)*

ciii Small thrush size; tail long and square

Upperparts mainly rufous; line of black forming necklace on breast, surrounding buffy throat; rest of underparts tawny-buff — *Morning Warbler*

cii No black *ring* on throat or chest

aiii Wholly or partially black tail

aiv Tail entirely black; no black in wings

av Pigeon size; tail long and square

Prominent white eyebrow; crown streaked dusky and white; wings rufous; underparts buffy white; — *White-browed Coucal*

bv Small dove size; tail long and very pointed

Throat and chest black, rest of underparts white; crown grey; bill red; two black bars across base of tail — *Namaqua Dove (male)*

cv Sparrow size. Tail average

Crown rufous; white eyebrow; black streak from bill down side of throat — *Moustache Warbler*

dv Very small; tail average

Black side of face, chin and upper throat, spotted white. Conspicuous grey crown and neck and white rump; grey collar on chest, rest of underparts cinnamon brown — *Grey-headed Silverbill*

biv Tail partially black

av Conspicuous white rump; sparrow size

White patch above and behind eye; black line below eye; broad black band on end of tail; wings black; underparts pale buff — *Wheatear (male)*

N B. In breeding plumage assumed before leaving Africa, the crown and back are grey

bv No conspicuous white rump

avi Crown and nape grey; sparrow size

Back rufous; rump grey; central tail feathers black; other tail feathers with white bases and black tips; underparts pale pink — *Red-backed Shrike (male)*

bvi Crown and nape not grey; small thrush size.

avii Crown black

Strong buff-white eyebrow and narrow black line through eye; outer tail feathers with black centres and white tips; wings bright rufous; underparts grey white — *Black-headed Tchagra*

bvii Crown brown

Broad white eyebrow and narrow black band through eye; central tail feathers dusky, remainder black with broad white tips; wings cinnamon; underparts buff or pale grey — *Brown-headed Tchagra*

biii No black in tail. Smaller than sparrow.

Head, nape and throat jet-black; back rich rufous; rest of underparts white with black bars on sides — *Rufous-backed Manikin*

bi Black, if any, restricted to tips of tail feathers, in flight feathers, as two bars on lower back, or spots on breast or in mottled plumage.

aii Conspicuous white eyebrow

aiii Bill long, heavy, down-curved; tail long; larger than pigeon.

General colour dun, with broad white eyebrow and white tips to tail feathers; a white line down centre of back; grey throat, dirty white underparts; Bill black—in male with cream base to upper bill; in female yellow base and red tip. — *Grey Hornbill*

biii Bill short; partridge shape and size

Crown of head brown; white eyebrow joining at nape; upperparts brown, mottled chestnut, and streaked white and buff; throat white; neck mottled; chest, flanks and abdomen striped chocolate; outer tail feathers black; bill red — *Kirk's Crested Francolin*

ciii Bill average; smaller birds

aiv Side of head with two white stripes; sparrow size

Upperparts stripey; broad white eyebrow and white line below eye, along side of neck; underparts white, faintly washed rusty, heavily streaked dark brown on neck, breast and flanks — *Streaky Seed-eater*

biv Side of head with single white line

av Breast strongly streaked dark brown

avi No white tips to tail feathers; sparrow size

Above pale fawn; wings, rump and tail rufous; underparts white; throat encircled by broken line of black-brown, and breast and flanks strongly spotted — *Spotted Morning-Warbler*

bvi Tail feathers white-tipped; sparrow size.

Above rufous brown; wings dusky with two white lines; tail bright rufous, white tipped with black sub-terminal band; underparts white, tinged tawny on flanks; brown stripe down angle of jaw; boldly spotted on breast — *Scrub Robin*

Tail distinctly long and narrow in relation to size of bird, often carried upright; upperparts plain sepia brown; throat white; underparts tawny; eyebrow distinct — *Tawny-flanked Longtail*

bii No conspicuous white eyebrow

aiii Upperparts distinctly streaked darker, or mottled lighter and darker

aiv Large birds

av Long legs and long neck

Chin and upper throat white, lower throat, neck and chest sandy-buff minutely flecked darker; remainder of underparts white, tinged sandy-buff; some black marks on breast. — *Black-bellied Bustard (female)*

bv Owl-like, short legs and neck

Long horn-like ear tufts; breast and belly barred and mottled dusky brown — *Spotted Eagle Owl*

N.B.—Verreaux's Eagle Owl is very similar but larger and darker, with fine vermiculation below.

biv Partridge size

av Head and neck rufous; underparts barred black and white; yellow legs — *Coqui Francolin (male)*

bv Two black streaks on sides of head; white chin and throat; yellow legs — *Coqui Francolin (female)*

civ * Thrush size

av Very short pointed tail; rounded-shaped bird

Underparts rufous buff, dusky on chest; slightly mottled and barred darker on sides — *Harlequin Quail (female)*

bv Short square tail; small, owl-like

avi Short, pointed ear tufts

Mixed grey and buff with broad black streaks above and below — *Scops Owl*

bvi No ear tufts

avii Black and white collar round hind neck

Above rich brown, finely spotted and barred on crown and nape with white; underparts white with dark brown markings — *Pearl-spotted Owlet*

bvii No black and white collar round neck

Very dark brown above; head barred white; mantle and tail barred tawny; below white with dark brown spots — *Barred Owlet*

N.B.—These three Owlets, being largely crepuscular, are most difficult to identify and a key such as this is not much help; see Field Notes for their calls by which they may be more readily identified.

cv Long square tails; plumage much mottled in buffs and greys, with some black; largely crepuscular

avi Central flight feathers much elongated, twice length of bird. Flight feathers black with white tips — *Pennant-wing nightjar (male) in breeding plumage*

bvi Central flight feathers not elongated

avii Distinct tawny collar on hind neck

aviii Outer tail feathers wholly white on outer edge

Dark in general colour; mottled grey with black blotches and yellow spots; one or two white bars on wing — *Mozambique Nightjar (male)*

bviii Outer tail feathers white on lower half only

General colour warm browns and black; white on wing less marked — *Fiery-necked Nightjar (male)*

bvii No tawny collar on hind-neck

General colour grey with black brown streaks; white on wing restricted to a spot; outer tail feathers white tipped — *European Nightjar (male)*

N.B.—Nightjars form a very difficult group to identify in the field, making an adequate key almost impossible.

div * Sparrow size

av Chest spotted dark brown

avi Throat and upper chest rich chestnut

Upperparts pale brown, marked and spotted with dusky and white; irregular black streaks down centre of back; rest of underparts white streaked with dusky — *Wryneck*

bvi Throat not chestnut

Upperparts rich rufous brown, striped dusky on crown, spotted dusky on back; more or less barred on back; below tawny rufous, spotted sparsely with dark rufous on chest and red brown on flanks; buff eyebrow — *Flappet Lark*

bv Chest and flanks finely barred dark brown

Top of head and hinder half of neck brownish grey; back rufous; white ends to inner wing feathers; underparts buff, finely barred with concentric dark brown bars on sides of throat, chest and flanks — *Red-backed Shrike (female)*

eiv Smaller than sparrow size

av Wing with much rufous edging to feathers

Crown and hind neck reddish-rust to iron-grey; back stripey, rather grey; underparts white chin, remainder washed rusty buff — *Rufous Grass-Warbler*

bv Wing with little or no rufous edging to feathers

avi Indistinct white eyebrow

Above streaked with darker and lighter sepia brown, the crown not so heavily streaked; underparts white with grey wash on sides — *Striped Grass-Warbler*

bvi No eyebrow but distinct white spot in front of eye

avii Crown distinctly more rufous than back

Crown and back more or less stripey; back greyish sepia; underparts white, washed on sides with grey — *Rattler Grass-Warbler*

bvii Crown and back not in contrast

General colour of upperparts sepia brown, lightly striped with darker; below white, tinged buff or yellow — *Shortwing Grass-Warbler*

N.B.—It is well-nigh impossible to give a satisfactory field key of this type for this large and difficult group; see Field Notes for calls which are more distinctive.

biii Upperparts not streaked or mottled

aiv Very large bird

Throat ash-brown, rest of underparts white, sparingly spotted with dark brown — *Martial Eagle*

biv Small dove size

av Tail very long, stiff and pointed

Forehead, cheeks, chin and throat grey; breast pale brown; rest of underparts white; two black bars on rump — *Namaqua Dove (female)*

bv Tail average, square

Crown grey, white forehead; sides of head, throat and breast vinous; rest of underparts buffy white; two black bars on rump; blue spots on each wing — *Blue-spotted Wood-Dove*

civ Thrush size

Ash-brown upperparts; underparts greyish-brown, feathers of chin and throat with conspicuous arrow-head-shaped white spots — *Arrow-marked Babbler*

div Sparrow size

av Throat and breast streaked with brown

Ring round eye and sides of face whitish; below white streaked brown on sides of throat, breast and flanks — *Spotted Flycatcher*

bv Throat not streaked

avi Underparts buff

Conspicuous broad white base to tail, which has dark brown tips; underparts buff — *Wheatear (female)*

bvi Underparts white

Upperparts pale chestnut; head with small crest; pale wash of chestnut on breast — *'Black-and-white' Flycatcher (female)*

eiv Smaller than sparrow size

av Crown and throat bronzy dark brown

Back pale brown; tail plain dusky; sides of face, throat and chest bronzy dark brown; rest of underparts white; flanks brown, barred white — *Bronzy Manikin*

N.B.—The female is very similar, but has no bronzy wash; underparts tawny brown.

bv Crown dull brown, throat white or pale grey

avi Very small; crown and nape rich rufous, contrasting with dark grey-brown back; underparts white, washed rufous; tail without obvious dusky bar at tip — *Tawny-cap Grass-Warbler*

bvi Crown dark brown, barely contrasting with back

avii Sides of face rust brown

Upperparts plain greyish brown, underparts white washed tawny-ochre except chin; tail with prominent dusky patches near tips of feathers — *Red-faced Grass-Warbler*

bvii Sides of face ash-brown

Above dark sepia brown; underparts white with slight greyish wash on breast — *Trilling Grass-Warbler*

N.B.—Three more birds for which a key of this type is inadequate; see Field Notes for calls which are more distinctive.

B. All BLACK plumage; except for some white spots on tail or wing when in flight; or chestnut in tail.

a Large birds. Eagle-like

ai Tail very short; head without long pointed crest; has appearance of being almost tailless in flight

Head, nape, wings and all underparts black; centre of back and tail chestnut red; bill orange, feet red; in flight underside of wings are largely white — *Bateleur Eagle*

bi Tail normal; head with long pointed crest feathers

General colour of upper and underparts brownish-black; legs feathered to toes, white; bill blue-horn, toes yellow. In flight characteristic white patch in centre of each wing. — *Long-crested Hawk-Eagle*

b Dove size or smaller

ai Tail very long

aii Bill red, long and decurved

General colour black, glossed green on head, back and breast; tail long, very graduated with two white spots on each feather except two central ones. Narrow white bar in wing in flight — *East African Wood Hoopoe*

bii Bill black

aiii Bill long, thin and decurved
General colour black, glossed purplish on crown and back; white wing bar and white tips to all tail feathers except two central ones — *East African Scimitar-bill*

biii Bill average
General colour black with deep green blue gloss; tail with narrow white tips — *Black Cuckoo*

bi Tail not noticeably long

aii * Thrush size

aiii Tail distinctly forked

Upper and underparts glossy blue black; wings dusky without gloss — *Fork-tailed Drongo*

biii Tail square

aiv Deep green gloss on head, neck, back, wing, coverts and underparts — *Black Cuckoo-Shrike (male)*

biv Glossy black
Wings with no gloss — *Black Flycatcher*

bii Sparrow size or smaller

aiii Swallow like, wings long, narrow and pointed

aiv Tail deeply forked in flight

Crown and back with greenish gloss; underparts with brownish gloss — *Rough-wing Swallow*

biv Tail generally pointed in flight
Wings very narrow and curved and pointed — *Palm Swift*

N.B.—This bird is really dark brown, but appears almost black in flight when it is almost invariably sen. Hence its inclusion here.

biii Wings rounded; small to very small birds

aiv Bill long, decurved, very small

General colour brownish black with metallic green gloss on crown, throat and neck — *Amethyst Sunbird*

biv Bill average; small sparrow size

Above and below shining black, with slight gloss; white patch in wing; edges of wing feathers white — *Black Tit*

C. BLACK and WHITE plumage, upperparts and wings generally black, underparts generally partially or wholly white

a Large birds

ai Neck, bill and legs long
General colour above black with green gloss; back, rump and upper tail-coverts white; head and neck metallic green and purple; rest of underparts white; tip of bill, throat and knee and toe joints red — *Abdim's Stork*

bi Eagle like

aii Tail so short as to appear absent

(In flight) Body black; underside of wings white; tail chestnut — *Bateleur Eagle*

bii Tail normal

(In flight) Body black; undersides of wings black with characteristic white patch in centre — *Long-crested Hawk-eagle*

ci Top of head without feathers, but with boney protruberance — *Helmeted Guinea fowl*

Black thickly spotted with white

b Rather larger than pigeon size; bill and tail long

Bill red, heavy, slightly decurved, with small casque; upperparts and neck dark brownish black; rest of underparts white; tail black with broad white tips — *Crowned Hornbill*

c Less than pigeon size

ai Whole underparts white

aii Tail noticeably long

aiii * Thrush size

Tail long and broad; bill black; upperparts black, underparts pure white; white patch in wing — *Black-and-white Cuckoo*

biii Smaller than sparrow

Tail very long, lax and narrow; bill pink; crown, nape, back and tail black; cheeks, rump and all underparts white; white bar on wings — *Pin-tailed Whydah*

bii Tail normal

aiii Rump feathers white forming large "powder puff" area

Crown, mantle, tail and back black; wings black with white edges to feathers — *Puff-back Shrike*

biii Rump grey or black

aiv White collar on back of neck

Crown grey; back and wings black, a broad white bar in wings; rump and tail black with outer feathers pure white; forward pointing bristly feathers on forehead — *Southern Helmet-Shrike*

biv No white collar on back of neck

Head, mantle, back, tail and wings black; rump grey; some white in wing; slight rosy tinge to white underparts — *Boubou Shrike*

bi Underparts only *partly* white

aii Broad black or chestnut band on chest. Very small

aiii Distinct white stripe over eye

Crown dusky, back dark grey; wings black with white bar; tail black; underparts white; white line above eye to nape where it forms white spot

i narrow black bar across chest — *Black-headed Flycatcher (male)*

ii narrow chestnut bar across chest — *Black-headed Flycatcher (female)*

biii No white stripe over eye

Crown grey; white spot on nape and white spot in front of eye; back grey; wings black with white bar; tail black; black line from bill through eye; underparts pure white with

i broad black bar across chest — *Chin-spot Flycatcher (male)*

ii broad chestnut bar across chest and chestnut spot on throat — *Chin-spot Flycatcher (female)*

bii No black or chestnut bar on chest

aiii Whole head while. * sparrow size

Neck all round, upper and under tail coverts and tail white; back, wings and centre of abdomen dusky brown — *White-tailed Barbet*

biii White on head confined to stripes on side of face

Two bold white stripes above and below eye; * sparrow size; head neck and throat black; upperparts dark brown, almost dusky; black line below eye down side of neck: rest of underparts white, with black spots on flanks — *Spot-flanked Barbet*

N.B.—Yellow edging to wing and tail feathers

ciii No white on head

aiv Throat and upper breast striped black and white. Tail long. * Thrush size

Above shining blue black with green iridescence; conspicuous white patch on wing and large white spots at end of tail feathers; underparts white, more or less streaked with black on throat and chest — *Levaillant's Cuckoo*

biv Throat and head black.
* Thrush size

av Bill red

Crown, nape, throat, breast glossy black; abdomen white; back dark brown wings dusky; tail black with white spots; wattle round eye red — *Red-billed Shrike*

bv Bill black. * Sparrow size

Upperparts and throat and breast black; rest of underparts white; head with conspicuous crest — *Black-and-white Flycatcher (male)*

civ Throat white, rest of underparts black

Conspicuous white shoulders; rest of plumage black — *Arnott's Chat (female)*

ci Underparts entirely black

aii White cap on head. * Sparrow size

A black bird with conspicuous white shoulders to wing — *Arnott's Chat (male)*

bii No white cap on head. * Thrush size

Tail noticeably long; all black bird with conspicuous white patch in wings and spot at tips of tail feathers. Head crested — *Black form of Levaillant's Cuckoo.*

D. SLATE, DARK GREY or DOVE GREY upperparts

a Underparts partially barred grey or black-and-white

ai Abdomen, or chest and abdomen barred

aii Crown and nape rufous. * Pigeon size

Upperparts, tail and wing coverts narrowly banded with black; throat white; chest pale chestnut; abdomen barred black on white; legs orange — *Red-necked Falcon*

bii Crown and nape grey

aiii Throat grey

aiv Chest chestnut; large thrush size with long tail

Upperparts slate grey; breast to belly buff barred with black; feet yellow — *Red-chested Cuckoo*

biv Chest grey, rest of upperparts barred

av Tail with conspicuous white or light coloured bars

avi Tail with one broad white bar; Large bird

Upperparts grey with some black spots; tail black with white bar; flight feathers black; abdomen boldy barred black and white; legs long and yellow; conspicuous yellow round eye — *Harrier Hawk*

bvi Tail with four lighter bars; large pigeon size

Upperparts grey with conspicuous white rump; flight feathers black; tail black with bars; underparts finely barred black on white; legs reddish orange — *Gabar Goshawk*

cvi Tail with numerous bars; * large thrush size; long tail

Upperparts and flight feathers grey; breast and grey on white; bill yellow at base — *African Cuckoo*

biii Throat white with central black line; * pigeon size

Upperparts grey with conspicuous white rump; tail with one or sometimes two white bars; feet yellow — *Lizard Buzzard*

b Underparts not barred or striped

ai * pigeon size

aii Underparts pure white; hawk-like

Upperparts pale silvery grey; conspicuous black patch at shoulder — *Black-shouldered Kite*

bii Underparts not pure white

aiii Black collar on back of neck; Doves

aiv No white on chin or throat

Head, neck and chest deep vinous pink, under tail coverts grey; eye red — *Red-eyed Dove*

biv White chin and throat

Head, neck and chest pale vinous grey; under tail coverts white; eye dark brown — *Cape Dove*

biii No black collar on back of neck

aiv Head and nape very pale greyish white contrasting with dark grey back; hawk-like

Wings and black blackish slate; rump pale greyish white contrasting with tail, which has four narrow white bars; underparts pale grey; feet yellow — *Dickenson's Kestrel*

biv Crown grey; nape and rest of upperparts ashy

Head crested; white spots on upperparts and wings; throat and neck buffish white; rest of underparts white; tail very long white tipped; feet grey — *Great Spotted Cuckoo*

bi * thrush size

aii Tail noticeably long

Upperparts pure pale grey, dusky on wings and tail; outer tail feathers black; chin and throat dusky grey, rest of underparts white — *White-breasted Cuckoo-Shrike*

bii Tail normal

aiii Underparts chestnut

Mantle and wings dark slate; crown, nape and sides of face black; conspicuous white eyebrow; rump chestnut; central tail feathers slate, remainder chestnut — *White-browed Robin-Chat*

ci Sparrow size or smaller

aii Conspicuous white rump; sparrow size

Crown and back grey; wings and lower part of tail black, upper part white; conspicuous white eyebrow and black band through eye; underparts buff — *Wheatear (male) (summer plumage)*

bii No white rump

aiii Underparts wholly or partially fawn to chestnut

aiv Head black; small sparrow size

Head, throat and chest black; back and wings pale grey; tail dusky with white edging; abdomen fawn to chestnut — *Rufous-bellied Tit*

biv Head pale grey; very small, "tailless"

Upperparts pale slate grey; sides of face and underparts rufous. — *Red-faced Crombec*

biii Underparts white to grey-brown; sparrow size

Upperparts greyish-brown; underparts more or less white — *Pale Flycatcher*

E. PALE BRICK RED General Colour

* thrush size. Very long crest; bill long and decurved Crest black tipped; black flight feathers; broad white band across black tail — *Hoopoe*

II. SOME RED, VIOLET, BLUE, YELLOW OR GREEN IN PLUMAGE

A. RED in Plumage

a RED on upper and under parts

ai Glossy carmine; * thrush size

Whole of wings, tail and underparts carmine; head glossy green; lower back pale blue; central tail feathers elongated — *Carmine Bee-eater*

bi Deep crimson head, rump and underparts; very small

aii Bill dark slatey blue

Back and wings dark sepia brown; rump crimson; tail black; sides of face and underparts crimson; centre of abdomen and under tail coverts black; white spots on side of breast — *Blue-billed Fire-Finch*

bii Bill rosy red

Above dull pink with grey wash; rump crimson; tail dusky with crimson edges; flight feathers brown; sides of head and underparts pink, fawn brown on abdomen and tail coverts — *Red-billed Fire-Finch*

ci Red confined to sides of head, base of tail and spots on abdomen; * thrush size

Forehead and sides of face much spotted red and yellow; crown and nape black; wings and tail black with white edges to wing and spots on tail; upper tail coverts crimson; throat yellow; broad black and white spotted collar on chest; rest of underparts yellow, spotted red — *Levaillant's Barbet*

b Red confined to broad band on breast; smaller than sparrow

Small, glossy black, with green sheen; rather long decurved bill — *Red-chested Sunbird*

c Red confined to wings
* pigeon size; tail long

Flight feathers crimson; rest of wing blue; top of head and neck deep iridiscent violet; forehead and around eye iridescent green; mantle, neck, underparts grey; tail violet and blue — *Violet-crested Turacou*

d Red on head and/or neck only

ai Very large bird

Conspicuous red on bare upperparts of throat and round eye; remainder of plumage black, with white flight feathers — *Ground Hornbill*

bi Entire head and throat scarlet; * sparrow size

aii Upper breast with broad black band

Upperparts grey brown; hind crown and neck collar black; rest of underparts sulphur yellow; heavy black bill — *Red-headed Barbet*

bii No black on breast

Upperparts brown; underparts light grey; edges of flight feathers yellow — *Red-headed Weaver (male)*

ci Throat only red

Partridge size; bare throat red; forehead black; upperparts brown with black stripes; patch on side of face white; underparts white or grey with heavy black stripes; bill and feet red — *Red-throated Francolin*

di Red confined to hind half of crown and nape

aii Side of head with two white and two black bands

Forehead and front half of crown black; spotted white; black patch on nape behind red nape; rest of upperparts dusky brown, spotted white; golden wash on tail; throat white, breast finely spotted white — *Bearded Woodpecker (male)*

N.B. In female red on nape and crown is replaced by black

bii No black and white bands on side of head

aiii Upperparts brownish-black barred and spotted white

Front half of crown pale brown; upper tail coverts slightly washed orange; below, throat white with small dusky spots; rest of underparts faintly washed yellow, with dusky longitudinal streaks — *Cardinal Woodpecker (male)*

N.B. In female red is replaced by black

biii Upperparts olive green, faintly marked with white spots

Crown dark sooty grey; red on sides and at nape; underparts dirty white, streaked throughout with black, most heavily on breast; a crimson stripe at angle of jaw; tail dark olive with yellow tips, washed golden — *Golden-tailed Woodpecker (male)*

N.B. Female has no red stripe at jaw.

ei Red confined to bill and streak through eye; very small

Above yellowish brown; underparts paler with a streak of pink down centre of abdomen — *Common Waxbill*

fi Red confined to patch behind eye; very small

Rump and underparts pale azure blue; crown, back and wings sepia brown; conspicuous crimson patch behind eye — *Red-cheeked Cordon-bleu*

gi Red confined to forehead only; very small

Upperparts glossy black; underparts white; rump yellow; white streaks on neck and above and below ear covets — *Red-fronted Tinker-Bird*

B. VIOLET in Upper-or Underparts

a Underparts purplish violet; * dove size

Upperparts cinnamon brown; bill broad and light yellow; dark blue in wings and tail — *Broad-billed Roller*

b Upperparts and underparts to chest metallic violet; * thrush size

Rest of underparts pure white — *Violet Starling (male)*

c Upperparts and throat glossy violet blue; smaller than sparrow

Remainder of underparts pure white; yellow patch at base of wing — *Violet-backed Sunbird*

C. BLUE in Plumage

Blue in upper- and underparts

ai Entire plumage dark glossy blue; eye bright yellow — *Blue-eared Glossy Starling*

bi Entire plumage not blue

aii * dove size

aiii Outer tail feathers conspicuously elongated

aiv Elongated feathers with broad tips; throat blue

Head and nape brownish green; rest of upperparts pale brown; edges of wing bright blue; rump and tail dark blue — *Racquet-tailed Roller*

biv Elongated feathers without broad tips, throat lilac

Head and back of neck pale glossy -green; white eyebrow; upperparts pale brown washed with green; much blue in wing; tail and rump cobalt; chin white; cheeks, throat and breast rich lilac; rest of underparts light greenish blue — *Lilac-breasted Roller*

biii Outer tail feathers not elongated

Upperparts light tawny brown; lower back and rump deep blue; tail greenish blue; sides of face, underparts light greenish blue; much blue in wing — *European Roller*

bii Smaller than sparrow; conspicuous red patch behind eye

Rump, tail and underparts pale azure blue; crown wings and back sepia brown — *Red-cheeked Cordon-bleu*

b Blue confined to upperparts and wings

ai * dove size

aii Underparts purplish violet

Upperparts cinnamon brown; rump, tail and flight feathers deep blue; bill broad, yellow — *Broad-billed Roller*

bii Underparts grey or partly green

aiii Underparts grey; tail long

Flight feathers crimson, rest of wing deep glossy blue: top of head and crest deep iridescent violet; mantle, neck and underparts grey; tail violet and blue — *Purple-crested Turacou*

biii Underparts (breast and abdomen) green

Head, mantle, throat and wings and tail brown; conspicuous blue rump; patch of yellow on crown and shoulder of wing — *Brown Parrot*

bi Thrush or sparrow size

aii Underparts wholly or partially chestnut

aiii Rump and lower back conspicuously chestnut

Crown, upper back, tail and wings deep blue; throat and sides of face white; rest of underparts chestnut — *Mosque Swallow*

biii Rump not chestnut

aiv Bill long, pointed, red

Rump, tail and flight feathers deep blue; crown and mantle grey; centre of back and wing coverts black; throat and chest white; rest of underparts chestnut — *Grey-headed Kingfisher*

biv Bill short, black

Head and nape greyish blue; underparts chestnut; white patch on back; wings dusky; tail brown — *Rock Thrush*

N.B. This is northern breeding dress often to be seen in February; during earlier part of visit dress more mottled and head and throat with only a blue wash

bii No chestnut on underparts

aiii Bill red, long and pointed; head brown

Flight feathers, lower back and tail pale blue; mantle and wing coverts dusky; crown and nape brown, with white collar between nape and dusky back; underparts white with brown stripes on sides — *Brown-hooded Kingfisher*

c Blue confined to underparts or tail * thrush dusky

Lower back, rump and tail light blue; some blue in wings; eyebrow and collar round neck white; black line through eye; rest of upperparts brown; underparts white striped with black — *Striped Kingfisher*

c Blue confined to underparts or tail + thrush size

ai Underparts bluish green; central tail feathers elongated

Throat yellow with black line below; general plumage above chestnut; tail dark green; bill black, rather long, pointed and decurved — *European Bee-eater*

bi Underparts green; tail deeply swallow-forked

Throat yellow with blue line below; plumage above dark green; tail blue with white tips; bill black, rather long, pointed and decurved — *Swallow-tail Bee-eater*

D. YELLOW in Plumage

a Yellow in upper- and underparts

ai Black on head or throat

aii Entire head, nape and throat black; thrush size

Back greenish yellow; rump and rest of underparts bright golden yellow; tail with yellow edges and tips; wings black with white edges — *Black-headed Oriole*

bii Black mask on forepart of face, and black throat; sparrow size

Front half of crown, sides of face, chin and throat black; nape and rest of underparts bright yellow; upperparts olive green and dusky — *Masked Weaver (male)*

bi Black on head confined to black stripe through eye; thrush size

Entire plumage golden yellow except for wings, centre of tail and stripe through eye, which are black; bill red — *Golden Oriole*

ci No black on head or throat

aii * thrush size

Whole underparts yellow with orange wash on chest; forehead and stripe above eye yellow; hinder crown, sides of face and nape lead-grey; rest of upperparts yellowish green — *Sulphur-breasted Bush-Shrike*

bii * sparrow thrush

aiii Black ring on chest

Wings and tail largely golden yellow; eyebrow and underparts golden yellow; crown and back dusky with yellow edges — *Golden Pipit*

biii No black ring on chest

Head, nape and throat pale yellow; wing feathers edged yellow; grey mantle; rest of upperparts brown; underparts greyish white — *Red-headed Weaver (female)*

b Yellow confined to upperparts

ai Bold yellow and black plumage; * sparrow size

Yellow lower back, rump and bar in wings; remainder of plumage black — *Yellow-and-black Bishop*

bi Yellow confined to patch on crown, at shoulder and edges of wing; * dove size

Crown, mantle, throat, chest and wings dark brown; rump blue, rest of underparts green — *Brown Parrot*

ci Yellow confined to wing or wing and tail

aii Yellow patch on wing only

Above ashy brown; white edges to wing feathers; outer tail feathers largely white; chin and throat black; ear coverts, lower throat and rest of underparts greyish white, white in abdomen — *Black-throated Honeyguide (male)*

N.B. Female has no black on upper throat

bii Yellow confined to edges of wing and tail feathers

Above ashy brown; wings dusky with yellow edges; central tail feathers brown, others with yellow edges; outer tail feathers entirely yellow; underparts white with narrow dusky transverse bars; underneath wing bright yellow — *Black Cuckoo-Shrike (female)*

c Yellow confined to underparts

ai * Thrush size

aii Red on head

Throat yellow; abdomen yellow spotted red; broad black-and-white spotted collar on breast; forehead and sides of head finely spotted red and yellow; crown and nape black; wings and tail black edged white; tail spotted white — *Levaillant's Barbet*

bii No red on head

aiii Yellow confined to throat

aiv General plumage above chestnut; bill rather long, pointed and decurved

Throat yellow with narrow black line separating it from pale greenish blue underparts; tail dull green, central tail feathers slightly elongated — *European Bee-eater*

biv General plumage above green; bill rather long, pointed and decurved

Throat yellow with narrow blue line separating it from dark green underparts; tail blue green deeply swallow forked and white tipped — *Swallow-tail Bee-eater*

biii Yellow confined to vent

Crown and face dusky brown; upperparts brown; underparts dirty white with darker chest; head slightly created — *Yellow-vented Bulbul*

ciii Underparts yellow throughout, with chestnut on breast

Crown, neck and sides of head slate grey; back, wings and tail green — *Grey-headed Shrike*

bi * Sparrow size

aii Underparts mainly yellow

aiii Black on throat

Head golden-brown with black stripe through eye; black patch on chin and throat; upperparts olive green — *Spectacled Weaver (male)*

N.B. Female has no black bib

biii No black on throat

aiv Upperparts glossy blue-black

Underparts washed tawny yellow; long patch of white across wing — *Yellow-bellied Flycatcher*

biv Upperparts dusky

Underparts yellow with white throat; side of face black with conspicuous white line from base of bill, above eye to back of neck; white bar in wing; outer tail feathers white — *Cabanis's Bunting*

bii Yellow restricted to throat or abdomen

aiii Head and throat scarlet

Hind crown, neck and broad collar on chest black; rest of upperparts grey brown; rest of underparts sulphur-yellow — *Red-headed Barbet*

biii Head not scarlet

aiv Upperparts bright grass green; bill long

Throat yellow, black collar edged chestnut below; black line through eye; white tips to tail preceded by broad black band; underparts greenish cinnamon — *Little Bee-eater*

biv Upperparts stripy brown

Yellow confined to patch on throat; greyish white stripe over eye; white bar in wings; underparts greyish white darker on chest — *Yellow-throated Sparrow*

ci Smaller than sparrow

aii Upperparts green with no yellow

aiii No black or green on underparts

Entire underparts yellow; broad white circlet round eye; upperparts yellowish green — *Yellow White-eye*

biii Black or green on underparts

aiv Black patch on chest

Chest yellow; throat and abdomen white; tail rather long and narrow. — *Black-breasted Apalis*

biv Throat metallic green

Rest of underparts bright yellow; narrow violet band below green throat; upperparts metallic grass green — *Collared Sunbird (male)*

bii Upperparts stripy with green edges to feathers

Underparts and rump yellow; yellow patch on side of face and yellow stripe above eye, and yellow forehead; dusky line through eye — *Yellow-fronted Canary*

cii Upperparts grey

aiii Throat and chest grey

Rest of underparts bright yellow — *Yellow-bellied Ermemola*

biii Throat and chest yellow

Rest of underparts white, washed yellow; crown and sides of face green — *Green-capped Ermemola*

E. GREEN in Plumage

a Large bird with long legs and long decurved bill

General colour above dark brown; glossed with shining green and purple, particularly in wings and tail; head, neck and underparts ashy brown — *East African Hadada*

b * Pigeon size

ai Upper and underparts shades of green

Upperparts bright green; head and neck greyer; underparts olive green with little yellow on abdomen; bill white, cere and feet red — *Green Pigeon*

bi Head, throat and nape greyish brown

Remainder of upper- and underparts green — *Brown-headed Parro'*

c * Thrush size

ai Ppper- and underparts green

aii Throat chestnut

Crown chestnut; upperparts dark green; underparts pale green; black stripe through eye; white line above and below black stripe; central tail feathers distinctly elongated; bill long, decurved — *Madagascar Bee-eater*

bii Throat white

Upperparts light green; crown black; forehead and line above eye white; white throat with black line underneath; rest of underparts washed light green; central tail feathers elongated; bill long, decurved — *White-throated Bee-eater*

cii Throat yellow

Upperparts green; blue line separating yellow throat from dark green underparts; tail blue green, deeply swallow-forked and white tipped; bill long, decurved — *Swallow-tail Bee-eater*

bi Upperparts only green

aii Underparts white

Upperparts glossy green; tail with white outer feathers; underparts pure white with patches of metallic green on either side of chest — *Klass's Cuckoo*

bii Underparts yellow

Head, neck and nape slate grey; back, wings and tail green; underparts with chestnut wash on breast — *Grey-headed Shrike*

ci Green confined to tail

Throat yellow with narrow black line separating it from pale greenish blue underparts; upperparts chestnut; tail dull green, central tail feathers slightly elongated; bill rather long and decurved — *European Bee-eater*

d Sparrow size or smaller

ai * Sparrow size

Upperparts light grass green; underparts cinnamon, with yellow throat, edged black and chestnut below; black line through eye, white tips to tail preceded by broad black band; bill long and decurved — *Little Bee-eater*

bi Smaller than sparrow size

aii Upperparts green

aiii Underparts yellow

Throat metallic green with violet band between it and yellow underparts; upperparts metallic grass green — *Collared Sunbird (male)*

biii Underparts black

Throat metallic green; upperparts metallic green, coppery on crown, bluish on rump; tail black; broad band on breast; rest of underparts black — *Little purple-banded Sunbird (male)*

bii Upperparts grey

Cap and sides of face green; rest of underparts yellow; abdomen white — *Green-capped Eremomela*

BRIEF FIELD NOTES (in alphabetical order)

There are several birds in this key which are common to the previously published key of birds of Cultivation and Townships. As more keys are published this overlap will increase. While it may be somewhat inconvenient, in order to save space and unnecessary repetition, field notes are published with this key for only those birds which did not occur in the previous key. It is also thought that the presentation of the field notes in alphabetical order will provide easier reference, than by presenting them in the order in which the birds occur in the key. The alphabetical arrangement is based, where possible, on the group name e.g. Bee-eater, European; Roller, Broad-billed.

APALIS, BLACK-BREASTED. A little *long-tailed* bird, more often

heard than seen; call a monotonous 'clep-clep-clep' repeated up to ten times; usually keeps near tops of trees well hidden in foliage; *black patch* on *yellow chest* characteristic.

BARBET, LEVAILLANT'S. Much spotted appearance and bright contrasting colours of red head, black-and-white spotted collar and yellow underparts characteristic. Frequently seen on bare ground. Call a succession of resonant notes 'ton ton ton . . .'

BARBET, RED-HEADED. Scarlet head and throat with black collar beneath and yellow underparts characteristic; often seen in pairs, perched on a dead branch; call a duet between male and female, loud and far-reaching ringing 'clink clunkclunk', the last two syllables lower than the first, repeated several times; nests in holes in trees.

BARBET, WHITE-TAILED. Confined to Northern, Central, Western and Lake Provinces. A striking bird with *wholly white head and tail,* contrasting with *black wings.* Call a duet, a chuckled 'boy-je boy-je . .' often repeated, the second syllable higher than the first.

BEE-EATER, EUROPEAN. Seen only in northern winter. Most noticeable when hawking insects with swift dives and turns, its mellow fluted whistle drawing attention to it; very similar in size and habits to Madagascar Bee-eater, but the latter only present during northern summer. Gregarious and flocks often seen sailing over high in the air. The upperparts of this Bee-eater are distinctly *chestnut* in contrast with green of similar sized bee-eaters; *bluer underparts* also characteristic.

BEE-EATER, MADAGASCAR. See above; tends to hawk insects from perches; gregarious and forms noisy flocks at dusk, which collect in roosting-trees, with constant sallies and returns before settling down; note a fluted whistle. The *chestnut throat* and *dark green plumage* of this species are characteristic; the central tail feathers are considerably elongated; visits Tanganyika May-September.

BEE-EATER, SWALLOW-TAIL. A non-gregarious species, resident. The contrasting *blue, deeply forked* tail, is characteristic; slightly smaller than the two preceding birds; frequent in Kiserawe District, but very local.

BUNTING, CABANIS'S. Rather local in drier *miombo* country, particularly in Eastern Province. In field *two white lines on side of face,* and in flight two white lines across wings are noticeable, in conjunction with *yellow underparts.* Often seen foraging on ground.

BUSH-SHRIKE, SULPHUR-BREASTED. A fairly common bird of the more open woodland with larger trees. Rather similar to the Grey headed Shrike, but smaller, and with *yellow forehead* and *stripe above eye.* Spends most of the time in the upper leafier parts of trees and calls attention to itself by its loud call 'pee pee preeee', the last note higher pitched then the first two., and drawn out.

BUSTARD, BLACK-BREASTED. Fairly well distributed in more open woodland areas and the commonest small bustard; generally seen in pairs. A ground bird which cannot easily be confused with other species in the habitat. When flushed generally flies only a short distance, with slow decisive wing-beats; offers easy shooting. In flight shows conspicuous white bands on wings. In alighting long legs often dropped well above ground and wings held out motionless. Call a peculiar soft whistle, and barklike 'mpokh' (Grant).

CHAT, ARNOTTS. A conspicuous and unmistakable small bird. characteristic of *miombo* country, the *white cap* and *white patch* on *all black plumage* of male quite distinctive; seen usually in pairs, often on ground, when it flirts its tail robin-like.

CUCKOO, AFRICAN. Very similar to European Cuckoo, but distinguished by yellow base of *both* mandibles; uncommon, the call is low, two syllables, similar in sound to the call of the European bird, but both syllables are on the same note.

CUCKOO, BLACK. More often heard than seen. The call is characteristic, of three notes on a rising scale 'fer whee whee' very plaintive, the first note often inaudible unless the bird is nearby. The call is mainly heard during the rains. Well distributed. *Wholly black wing* distinguishes from Black-and-white and Levaillant's Cuckoo, both of which are long-tailed cuckoos. Underparts variable —wholly black or conspicuously barred. A migrant and prominent in Tanganyika December—April.

CUCKOO, BLACK-AND-WHITE. More common in northern part of Territory; distinguished from the foregoing and Levaillant's by pure white underparts, but is very variable from black through grey. Smaller bird. Cali loud, laughiug cackle 'quer-qu-quick' (Grant).

CUCKOO, KLAAS'S. Well distributed small green-and white Cuckoo, more often seen than heard. Prominent September—February. Call a monotonous 'her-ee-tee', the call repeated three or four times. The last two notes are rising. Very similar to Didric Cuckoo in appearance, but the latter has white spots in wings.

CUCKOO, LEVAILLANT'S. A more common bird in Eastern than Northern Province. A bird not easy to see, as it prefers well wooded areas; calling recorded late December—April. Call a double note repeated three or four times as if stutterting, and then rapidly changes to a chucking 'quee-quee-quee-quee.' *Black streaking on breast* differentiates this long-tailed cuckoo from Black, and Black-and-white species.

CUCKOO, GREATER SPOTTED. Although Grant speaks of a resident population as well as northern visitors, I have only two records of this bird and consider it most uncommon. In the field the *crest* is very noticeable and the *spotted ashy upperparts* and *long tail* are characteristic. Grant gives the call as 'heah-heah-heah', a sharp chattering.

CUCKOO-SHRIKE, BLACK. Well distributed, but not common, in open woodland. Female quite different from male, having much yellow in tail and wings. Male can be confused with Fork-tailed Brongo, being distinguished by *rounded* not forked tail, and *deep green gloss* on head, neck, back and wings. Call a chucklde 'chit chu' and a loud ringing 'tirrit tirrit'.

CUCKOO-SHRIKE, WHITE-BREASTED. A bird of open *miombo* woodland, quite characteristic. The pale *ash-grey* upperparts and *white breast and abdomen* distinctive in bird of its size. A silent bird and more common in southern areas.

DOVE, NAMAQUA. Characterised by small dove shape and long-very *narrow, pointed tail.* Common and widely distributed, generally to be seen feeding on road or bare ground. Very rapid flight. *Contrasting black forehead, chin and throat* of male with *grey crown and nape* and two black bars across lower back characteristic. Call very throaty, plaintive 'ooo whoooo' the second not long drawn out.

EAGLE, BATELEUR. One of the most characteristic birds of the East African skies, particularly in more open country. The long, broad, indented white under-wings, slightly upcurved, contrasting with the **black-apparently tailless** body, as the bird soars endlessly, high in the air, identify this Eagle from all others. The harsh cry can be heard from great heights; a throaty 'haw haw haw', also heard when perched.

EAGLE, MARTIAL. There are not many eagles to be seen in woodland. This is by far the largest, often seen perched in a tall tree; the brown on chest forms a V, and underparts are sparingly spotted brown on white. Call a low gulping 'quclp'. Could be confused in flight with the smaller Black-breasted Harrier Eagle, which has black on throat and chest and no spots on underparts. I have not recorded them in similar country.

EAGLE, WAHLBERG'S. The most common small eagle of lowland woodland areas; not recorded from open scattered-tree grassland country. About size of Kite with which it could be confused, but the tail is **square.** There is a white-breasted form with a pale head.

EREMEMOLA, GREEN-CAP. Not common in my experience in eastern and northern areas, but more so in western and southern woodlands. A little, restless bird, usually in small parties of 4—5, foraging for insects in leafy trees and difficult to see; could be mistaken for the Yellow White-eye, but has *grey* upperparts and *no* white ring round eye. Call a constant twitter while foraging.

EREMEMOLA, YELLOW-BELLIED. A much more common bird than the former in eastern and northern areas; distinguished from the preceding by *grey throat, and chest* and *yellow belly,* whereas the Green-cap has yellow throat and chest and white belly. Seen in small parties working through leafy trees and crops of cotton; song a weak warbled 'pritit zee tu zee'.

FALCON, RED-NECKED. Characteristic hawk of open, lowland woodland. The *rufuous crown and nane* contrasting with *barred upperparts,* with barred belly, good diagnostic characters. Call a shrill 'kek-kek-kek' (Grant).

FLYCATCHER, BLACK. This all-black bird occurs alongside the Fork-tailed Drongo and can be easily confused with it. The tail is *square* and it is slightly smaller in size.

FLYCATCHER, BLACK-AND-WHITE. A sprightly noisy bird, the male and female very unalike, but both showing a distinct crest. Rather short-tailed, stocky birds; calls attention to itself by a loud whistled 'tip tureee', often repeated, from the top of a tall tree. The last syllable of the second note rises and is drawn out. Rather local in distribution, preferring more open tall woodland. Often makes short circular flights with quickly fluttering wings, returning to a nearby perch. Both birds are quite distinctive when seen.

FLY-CATCHER, BLACK-HEADED. A tiny black-and-white flycatcher, commonest in coastal areas in low bushland and very similar to the Chinspot Flycatcher from which it may be distinguished by the almost *black crown* and distinct *white line from base of bill above eye to back of nape.* The call is a subdued 'chup', followed by snapping of the bill.

FLYCATCHER, PALE. A typical bird of the woodland, very like the common Spotted Flycatcher of Europe. A drab, small bird, which draws attention to itself by dropping suddenly from a branch on to some insect on the ground, and returning to its perch. Can be distinguished fom the migrant bird by absence of spotting on breast.

FLYCATCHER, YELLOW-BELLIED. An uncommon bird, rare in eastern and northern areas, common in western *miombo* woodland. Quiet habits make it unobtrusive where it occurs. Easily recognised by deep blue black upperparts and yellow-tawny underparts.

FRANCOLIN, COQUI. The smallest common Francolin, or Bush Partridge. It has a definitely rufous appearance, the breast and neck much more so than other species. *Rufous outer tail* feathers prominent. Generally in small coveys of five to six and difficult to flush from tall grass. The call is characteristic—a shrill two-syllable 'kwi kit kwi kit' often repeated and heard mainly at dawn and dusk. Well distributed in most woodland and bushland.

FRANCOLIN, KIRK'S. Confined to the southern and coastal areas of the Territory. Distinguished from Coqui by larger size, and the *outer tail feathers* are *black,* not rufous. Call given by Vincent (Grant) is 'cheek-chik a chika' repeated.

FRANCOLIN, RED-THROATED. The commonest Francolin of the woodlands of western, central, eastern and southern Tanganyika, as well as being found in more arid areas to the south-west of the Northern Province. Easily distinguished by characteristic **bare red**

throat In the arid areas of the Northern Province its place is taken by the Yellow-throated Francolin. Has a loud raucous call, heard at dawn and dusk 'joe-wee' or 'kwaree', often repeated, rising to a crescendo and then dying away.

GOSHAWK, GABAR. In common with closely allied sparrowhawks and other goshawks, attacks prey from a perch, showin remarkable speed and agility in chasing its quarry through woodland. Might be confused with Lizard Buzzard, but has grey throat, no black line down the middle of the throat, and more slender. A very common hawk of the woodlands.

GRASS-WARBLER, RATTLER. One of the more common of a difficult group to identify in the field. More particularly found in the thornier aspects of woodland and bushland. Call notes are almost best character to go by. When disturbed flies into nearby low bush or tree and scolds the intruder with harsh 'tche tche tchar' repeated with much vehemenace. The striped back and lack of rufous on the sides of the face distinguish it from the similar Red-faced Grass-Warbler.

GRASS-WARBLER, RUFOUS. One of the easiest of grass-warblers to identify; very widely distributed particularly in low-lying wet grass areas of open woodland. Plumage contrasting rufous and dark grey, particularly rufous in the wing. *Crown dark grey-brown* c.i. rufous of the preceding and the Red-faced species. Back very distinctly striped, much more noticeable than in other grass-warblers of woodland. Call a plaintive 'tweee twee', long drawn out; also has a watch-winding call (Lynes).

GRASS-WARBLER, SHORT-WING. A smaller bird than the others of this habitat; somewhat local, by no means as common as the preceding two. Shy and rarely displays itself as do the others, except that it sings from a prominent perch during the breeding season. Partial to top branches of trees where it delivers a very slight, high-pitched song inaudible at any distance from its perch. The song consists of a few softly whistled notes followed by a series of light trills which rise and fall.

GRASS-WARBLER, STRIPED Somewhat larger than the Rattler, and often occurs alongside it; has a stouter appearance. The bill is rather heavy for the size of the bird. It is a dark bird with little contrast in the plumage and **no** rufous on head; back well striped. Perches in full view on small bushes or trees to deliver its 'song'. This is a series of throaty notes 'siku siku siku'. There is also another series of rapid 'tchiuzezeze kwoip.'

GRASS-WARBLER, TAWNY-CAP. Only found from Kilosa—Morogoro—Dar es Salaam southwards in suitable open woodland. A very small Grass-Warbler in which the rufous cap contrasts strongly with the grey *unstriped* back. Call a plaintive, rather slow 'chip-chip', chip', often on wing, and while perched on tops of trees.

GUINEA-FOWL, HELMETED. Hardly requires field notes to identify; the spotted black and white plumage and red bare crested crown quite characteristic.

HADADA, EAST AFRICAN. Generally gregarious. Sometimes found in swampy hollows in woodland; often seen flighting over in morning and evening, giving their characteristic loud nasal call 'ha-ha—ha'. Long decurved bill held downwards in flight, and rounded wings and tail very noticeable. Distinguished from the Hammerhead Stork by its dark colour, green sheen and lack of crest on head.

HARRIER-HAWK. A rather large grey hawk, about the size of a Kite, with **rather long yellow legs** and long tail. Often seen searching the bark on dead branches and sometimes at weavers' nests. A bird of slow flight. From the curious positions which it assumes when searching for food its legs appear to be double-jointed. It is larger than similar coloured woodland hawks. Call a wheezing plaintive drawn out whistle 'wheeo'. Grant also gives a quavering scream.

HAWK-EAGLE, LONG-CRESTED. A readily identified bird either perched or in flight; perched, a long-feathered crest; in flight the white 'window' patch in each wing. Often seen soaring. Nowhere common, but widely distributed in more open areas.

HELMET-SHRIKE, SOUTHERN. Almost invariably seen in flocks of five or six birds; a common and characteristic bird of *miombo* woodland. The soft plumage of strongly contrasting white, grey and black very characteristic. Flight very silent, almost a fluttering drift from tree to tree, often in parties with other birds. A sharp chattering note, and snaps the bill when taking off in flight.

HONEYGUIDE, BLACK-THROATED. Usually solitary; often draws attention to itself by its excited chittering note with short flights from tree to tree, by which means it attempts to lead the hunter to a bees' nest. The white edges to tail and white rump are most striking on this drab coloured bird. Has a characteristic far-reaching ringing call 'wheet purr' repeated frequently.

HORNBILL, CROWNED. Long, heavy, decurved, red bill with narrow casque, and black upperparts and white underparts make this lesser hornbill easily distinguished from Red-billed Hornbill which has much white in upperparts, and no casque. Call a series of piping whistled notes.

HORNBILL, GREY. Distinguished from the former by black bill and distinctly stripy, brown plumage. Flight undulating. Call a plaintive whistle.

HORNBILL, GROUND. Quite distinct from any other bird; its large size and bright red bare neck contrasting with all black plumage on the ground readily identify it. The call is a series of very deep throaty 'ooomp's' in groups of three or four notes; heard most

frequently at night. These were once thought by the author to issue from some large carnivore! They have a most unbirdlike resonance and timbre.

KESTREL, DICKENSON'S. An eastern and southern bird of lower altitudes, not recorded in the north of the Territory. The pale grey head and rump are noticeable characters in contrast with the black back and wings. Plain grey underparts distinguish it from sparrow-hawks. Often collects in large flocks, especially during locust invasions, and spends much time in flight.

KINGFISHER, BROWN-HOODED. Distinguished from the common Striped Kingfisher by *plain brown crown and mantle,* which is not streaked with black as in the latter, and the quite *unstriped* underparts. Call not very dissimilar to that of the Striped Kingfisher, but not preceded by trill, and less vehement in character, 'chit-cheerio' repeated frequently.

KINGFISHER, GREY-HEADED. Much less common than either of the preceding; easily distinguished from both by the *rich rufous abdomen* and the *unstriped pale grey crown and nape.* The blue in wings and tail very brilliant. Call a rapid rather high-pitched rattle.

KITE, BLACK-SHOULDERED. A very pale bird, almost white in some lights, with noticeable black patches at the 'shoulders', quite unlike any other small falcon. Most frequently noticed hovering like a Kestrel. Call a loud piping whistle.

LARK, FLAPPET. Almost invariably heard rather than seen; has characteristic display flight during which it soars in the air and then snaps the wings loudly and rapily as it shoots up, before it descends a short distance to rise again and repeat the performance. The sound of the wing-snapping carries a considerable distance. A small striped, sparrow-sized bird, very shy and usually hiding on the ground in tall grass.

MORNING-WARBLER, SPOTTED. A somewhat shy bird and one of the East African songsters; heard early in the morning and at dusk. Has appearance of small *red-tailed thrush,* but spots on breast form a circlet. Song a varied collection of short phrases of rich notes; a mimic introducing notes of Boubou Shrike, and whistling pipe of Grey Hornbill as well as repeated whistled 'joweeo'.

NIGHTJARS. These noctural birds are extremely difficult to identify, unless in the hand, with the exception of the Pennant-wing. These are the birds which at certain times of the year seem to collect in considerable numbers and sit on the roads, car lights picking up their small red eyes which seem to belong to some larger animal. At dusk the birds can be seen flitting noiselessly with extremely erratic flight, hawking insects. The Mozambique Nightjar is perhaps the most common and most frequently seen on roads at night.

The Pennant-wing is easily the largest and when the elongated

feathers are present, cannot be confused with any other. The European is also a larger species, but only present during the northern winter. The call notes of the Fiery-necked and Mozambique Nightjars are different. The former has a very mellow call which may be represented by 'churip chewewereree'. The call of the latter is a subdued 'feyyop' and a long, monotonous rapid 'toktoktok' similar to the churring of the European Nightjar.

OWL, SCOPS. A small owl, rarely noticed as it is nocturnel. The call is a monotonous double, long drawn note 'kroo kroo', like that of the Barred Owlet. Can be distiguished from the owlets by its small ear-tufts.

OWL, SPOTTED EAGLE. The common large owl often seen near the road at night. Has distict ear-tufts and can be distinguished from the still larger, but less common, Verreaux's Eagle Owl, by its spotted and freckled wings. Call a low mournful 'hoo oo' or 'hu-hu-hu'.

OWLET, BARRED. A bird of eastern and central Tanganyika, mainly crepuscular in habit and not commonly seen. **No** ear-tufts; the call 'kroo kroo' similar to the Scops Owl is often preceded by a crescendo whistled 'huyu huyu huyu'.

OWLET, PEARL-SPOTTED. A very small owl, smaller than the Scops and with no ear-tufts. Again, rarely seen. A characteristic whistled call which carries some distance, a series of three or four notes, ascending and descending sharply, followed by a descending trill.

PARROT, BROWN. Distinguished from the following by much browner upperparts with well-marked bright yellow shoulders to wings and much bluer rump and underparts. Call a harsh screech uttered on the wing.

PARROT, BROWN-HEADED. The brown head and nape contrast with the bright grey green of the upperparts; altogether a greener bird than the preceding. Call a similar loud screech, both on the wing and when perched. Flies with very rapid swerving flight, often in small flocks.

PIPIT, GOLDEN. A rare bird of the Eastern and Tanga Provinces, of the drier types of woodland. Once recorded in Morogoro District. A remarkable bird with its bright yellow wings and underparts. like a bright yellow wagtail.

PLOVER, SENEGAL. A long-legged bird of lower altitudes, very similar to the British Lapwing and very fond of feeding in burnt areas. Seen in small flocks of 6—8 birds. Might be confused with a near relative, the Crowned Plover, from which it can be distinguished by the absence of a bold white line encircling the black crown. It is also less noisy and smaller. The black-ended white tail conspicuous in flight, which is slow. Call a piping 'tlu-wit' (Grant).

QUAIL, HARLEQIN. A small round gamebird which sits close in the long grass and when flushed rises with a whirr and flies with very rapid wing beats only a short distance before flopping into the grass. Most in evidence during the rains, when in numbers. Otherwise often in pairs. Can be distinguished from the small and less common Button Quail and the African Quail by its chestnut underparts. Call characteristic a whistled chirp 'wit-wit wit wit'.

ROBIN, SCRUB. A small, slender bird of Robin size, with a very distinctly rufous tail which is frequently flirted vertically; a miniature thrush. The striped breast and much smaller size distinguish it from the Spotted Morning Warbler. Tends to be shy, searching for food under cover if possible. Song, heard at dawn and early evening, consists of a rather monotonous repetition of a few whistled notes 'hwee chewee chewee cher', the first note being highest and the last lowest.

ROLLER, BROAD-BILLED. The rollers are easily distinguished from all other birds of their size, that of a small dove, by their fine shades of Cambridge and Oxford blue or lilac plumage. This species is quite distinct from the others with its *deep lilac-washed upperparts,* lilac underparts and blue tail, and *bright yellow bill.* Call a loud chuckling note.

ROLLER, EUROPEAN. Common during the northern winter, especially in March when on passage, plumage dusty blue and brown, rather duller than the two following, and with *no elongated outer tail feathers.* The black primaries contrast with the pale blue underparts in flight and are characteristic.

ROLLER, LILAC-BREASTED. The commonest of the rollers; a noisy bird given to aerobatic display of tumbling, dashing flight, uttering loud chuckled 'kraak kraak kraak' in flight and when perched. Distinguished from the following by the elongated outer tail feathers having *no broad tips,* and by its *deep lilac breast.*

ROLLER, RACQUET-TAILED. Infrequent in eastern and central areas, commonest in the south of the Territory. Has *no lilac breast* and the elongated outer tail feathers have spatulate tips. A variety of raucous calls. Also given to wild aerobatic flights.

SCIMITAR-BILL, EAST AFRICAN. Typified by very long thin decurved **black** bill, and long graduated tail, with weak dipping flight. Usually seen in pairs and sometimes in company with the Red-billed or Kakelaar Wood-Hoopoe, which is larger. Clambers about tree trunks and branches probing for insects. Call a mournful 'klwee klwee ku ku ku ku.' the first two notes higher than the remainder, which are descending. Also a plaintive 'phweeo phweeo'.

SEED-EATER, STREAKY. A bird of northern areas, where it is common; not known in east and south, and of rather higher levels, mainly in more bushy woodland. A stout bird of sparrow-size distinguished by *very marked white eyebrow* and *very striped breast.* Generally seen singly or in pairs. Song a high pitched

splintering 'turridee' often repeated and a very slight call note 'trip trip.'

SHRIKE, RED-BACKED. A visitor during the northern winter, usually to be seen solitary. The contrasting *grey crown and red-brown back*, with black on the side of the face, in the male, adult, is very characteristic. The female is less grey on the crown. Young birds have finely banded underparts. A silent bird, which sits motionless on a low bush for long periods, darting to the ground to pick up some insect.

SHRIKE, RED-BILLED. In flight the brown back appears as a brown band between black head, wings and tail; red bill, legs and eye wattle very prominent. Usually seen in small parties of 4-5 birds searching for insects in bark of trees. They move with slow drifting flight from tree to tree; the birds follow one another with chuckling ringing calls; also has a quietly warbled note 'jerree' ending in a sibilant note.

SHRIKE, SOUTHERN HELMET. A close relative of the foregoing with similar drifting flight and gregarious habits. The *grey head* and *white collar contrast* strongly with the *black wings and back.* Rather restless birds, constantly moving from tree to tree. Has a short sharp sibilant call.

SILVERBILL, GREY-HEADED. Little birds generally seen in small flocks of five or six. The *white rump* is quite distinctive and easily seen and immediately identifies this small bird.

SPARROW, YELLOW-THROATED. Not common, though widely distributed in typical *miombo* woodland, where it is found singly or in pairs. Typically a sparrow, identified at once by the *yellow spot* on centre of throat, together with white stripe over eye. It has a chirping call note, very similar to the 'spink spink' of the British Chaffinch.

STARLING, BLUE-EARED GLOSSY. Usually seen in flocks of ten or twelve birds. Unmistakable by their glossy deep greenish blue plumage. Very common in eastern and southern areas. There is a larger species found in drier country and more often singly or in twos and threes. Noisy birds with a rather shrill chattering call.

SUNBIARD, AMETHYST. A widely distributed but not common sunbird of woodland and cultivated areas. Very like the Scarlet-breasted Sunbird with black plumage and glossed green crown, but there is *no red on underparts,* the throat being a glossy purple, Bill long and decurved. Song a faint scratchy warble.

SUNBIRD, LITTLE PURPLE-BANDED. Not unlike the former, with its black wings, tail and underparts, but *whole back and crown glossy green,* and a *narrow chestband of maroon,* edged narrowly with blue-violet. Bill long and decurved. Not common.

SUNBIRD, VIOLET-BACKED. A rather larger sunbird than the foregoing, with a *short* decurved bill. This species is characterised by the *dark blue back* which contrasts with the *pure white underparts* and yellow pectoral tufts. Call a high-pitched squeaky twitter.

SWALLOW, ROUGH-WING. Widely distributed and locally common Could be confused with all-black swifts, but flight is very weak without the dash and rapid wingbeats of the swift. The tail is also long and deply forked. Often in small flocks flying backwards and forwards among the trees, rarely above tree-top level.

THRUSH, ROCK. A visitor only, during the northern winter, generally solitary. No other common East African bird can be confused with this. Plumage gives a speckled appearance, with traces of blue wash in upperparts, remaining from breeding dress. Note contrast of grey crown, nape and throat with rufous underparts, and the white patch on rump with dark brown tail.

TIT, BLACK. A bird of the southern woodlands only. Rather uncommon. A small glossy black bird with well marked white patch in each wing. Bill and legs black, only somewhat similar bird is the Indigo Finch which has no white in wings and a pink or white bill and orange legs.

TIT, RUFOUS-BELLIED. Well distributed in typical *miombo* woodland. A small bird, seen singly or in pairs. The characteristic features are the *jet black head and neck contrasting with grey back and chest and fawn belly.* There is a little white in wing and tail. The bird has a sharp rasping note, typically tit-like.

TURACOU, VIOLET-CRESTED. An unmistakable bird in appearance and note, widely distributed in most woodland areas. In flight the deep crimson flight feathers contrast strikingly with the violet blue back and rest of wings. Other genera are found in the mountain forests. The call is quite characteristic and native names for the bird are based on it e.g. *kurukuru.* Call starts as a series of rapid throaty 'kok's' of a low pitch, which run into a rather higher, far-carrying throaty 'kuru kuru kuru kuru kuru'.

WEAVER, MASKED. One of the black-faced, yellow, gregarious weavers, well distributed. Three common weavers have black throats—this, the Spectacled and the Mottle-backed. It can be distinguished from the first by the black forehead and crown, whereas the Spectacled has only a black line through the eye; from the second by the black on the throat being rounded, not pointed on the breast, and the *upperparts striped green*, not black, mottled yellow. Nests in small colonies of five to twelve pairs. A noisy chatterer during the breeding season.

WEAVER, RED-HEADED. A somewhat local woodland bird, the male of which, with its red head could only be confused in a quick view with the larger Red-headed Barbet, from which in a good view it would immediately be distinguished by its brown back and un-

derparts and small *red* bill compared with heavy black bill of the Barbet. Call a quiet 'tzip tzip tzip.'

WHEATEAR, COMMON. A migrant from the north, very easily distinguished by its *broad white rump,* habit of flirting its tail up and down when it is perched, and the contrasting *black wings* and sepia back. Widely distributed in more open woodland and open grassland in November to February.

WHITE-EYE, YELLOW. A very small gregarious bird, more common in the drier aspects of woodland, and more typical of drier thorn country. Usually noticed in small parties of six to ten birds. Could be confused with the Yellow-bellied Erememola, but is distinguished by pale olive-green upperparts, not grey, and a narrow but well-marked circlet of white feathers round the eye. Has a very attractive little call, which in a flock sounds like a cascade of tiny tinkling bells.

WOODPECKER, BEARDED. The woodpeckers are not too easily distinguished as they rarely present a good view of the underparts, which are important diagnostically, and too readily hide behind branches or the trunk of a tree when disturbed. This is the most easily recognised, with its very distinct facial pattern of two alternating black and white stripes. In the male the hind half of the crown is red; in the female, black. Call characteristic—a nasal 'hare' (Grant).

WOODPECKER, CARDINAL. The smallest common woodpecker, two-thirds the size of the foregoing. Has a distinct narrow black moustache which distinguishes it from other small woodpeckers which have a crimson streak or none at all. Hind half of crown red in male and underparts streaked dusky. Call a loud, shrill twitter. Often heard tapping in a tree before being seen.

WOODPECKER, GOLDEN-TAIL. This woodpecker has a well-marked *red moustachial streak* and is the only medium or large sized woodpecker with the underparts *streaked* with dusky, not spotted. Not common, but of fairly wide distribution from Tanga to Eastern and Southern Provinces.

WRYNECK. A very uncommon bird which I have recorded but twice, in the Eastern and Southern Provinces, although Grant shows it as having a wide distribution in the Territory. Usually seen singly, more rarely in pairs. A quiet bird, not readily seen in the trees. The *redbrown patch* on throat and upper chest with the *black and white barring on side of face* are characteristic.

(To be continued)

CHAGGA FORTS AND BOLT HOLES

by H. A. FOSBROOKE

INTRODUCTION

This article is the third in the series dealing with defensive measures taken by Africans in North-Eastern Tanganyika in pre-German times. The first article, in T.N.R. No. 35, dealt with bolt holes or artificial tunnels and caverns, as found in the North Pare mountains, excavated as shelters in times of tribal raids: it seems probable that the technique originated amongst the Chagga and Methods of construction and use are described below. The second article, in T.N.R. No. 36, dealt with pit dwellings which the Iraqw of Mbulu constructed. In these two articles, the Editor was extremely generous in the number of illustrations which he allowed me to publish, but in this and the concluding article, he has asked me to cut these down to a minimum. Luckily this can be done without detraction from the value of the article as, contrary to the previous subjects, others have written about and illustrated the works now dealt with, particularly Sir Charles Dundas and Bishop Wynn Jones, to whose works reference is recommended.

STONE FORTS

In Chagga history can be traced a development from the time when political power rested in the clan and lineage heads, technically called a segmentary society, through an intermediary stage when a large number, about twenty-six, petty Chiefs were competing for ascendancy, to the present position where the tribe is united under one Chief and Council. This last development has only taken place in the present decade but was anticipated by Dundas (1924) Page 97, who states "There had now nigh a century a constant and fierce contest between two or more powerful Chiefs for supremacy over the whole country. The culminating point was reached in the latter years when Rindi was in the height of his power and the issues narrowed to a rivalry between him and Sina of Kibosho. Had either of these Chiefs prevailed over the other, or if the rivalry had continued into succeeding generations, it was almost inevitable that the ultimate outcome would have been the establishment of a supreme head or king over the tribe."

We must not, however, be misled by the graphic descriptions which have been handed down and recorded, of wars, battles, seiges and intrigue, into equating these moves with similar incidents in the histories of European or Asian countries. The numbers involved were extremely small. In 1948, the Chagga numbered about 230,000 and at the beginning of the British era about half that number, say 120,000. Allowing for this to have doubled likewise in the previous quarter century, this means that on the advent of the Germans, they must have numbered about 60,000. As these were divided amongst twenty-six Chiefs, this means that each chiefdom must have had, on the average, a little over 2,000 individuals or about 500 adult males. In these circumstances, it will be realised that the relationship between Chief and subject must have been on a much more personal basis than is possible today.

After this digression, inserted in an attempt to get the whole subject into perspective, let us look at the remains of the relics of these wars as are to be found today. The most conspicuous of these are the stone forts and of these, the largest and best preserved is that at Kibosho. Fig. I show a section of wall surrounded by a trench. The youth in the foreground illustrates the depth and width of the trench, whilst the old gentleman standing against the wall reveals the fact that at this point the stone work is nearly 10 ft. high. Other illustrations are to be found in Wynn Jones's article, T.N.R. No. 11, Page 11, in Dundas (1924) Page 95 and Dundas (1932) Page

Fig. I.—Wall and ditch of Sina's Fort, Kibosho.

130. All these illustrations reveal the fact that the masonry is composed of random dry-stone work and can in no way be equated with the more advanced techniques to be found at Zimbabwe or Khami in Southern Rhodesia. Even without the destructive agency of local builders looking for an easily accessible supply of stone, it is doubtful whether these works will survive for many decades unless artificially restored and preserved.

In studying the history of the Kibosho fort, I was at first misled by an eye witness description of this construction at the time of Sina. Kibosho was visited in 1887 by Captain Sir John Willoughby who, on Page 213 of his book, Willoughby (1889), records:

> "The main village is formed of a succession of these palisaded enclosures running into each other, the means of communication being a narrow gateway, across which can be drawn at will a sliding door consisting of a heavy slab of thick wood pierced with loopholes, so that the whole forms a real stronghold, almost impregnable against hostile natives; I should say it would prove a tough nut to crack even for a European force unprovided with a mountain battery."

This misleads one into thinking that Willoughby is describing some wooden structure distinct from the stone fort seen today but this, in fact, is not so as revealed by Dundas (1924) who explains "Sina's fort is the best preserved: it consists of a series of squares, stone-walled, each wall flanked by deep moats which were originally concealed by hedges and bordered with spiked stakes." This point illustrates how even eye witness accounts must be subjected to critical analysis. Willoughby's impression was that he was looking at a wooden structure and in the conditions of tension prevailing at the time, it would obviously have been impolitic for him to make a close examination of his hosts' defences. Time and the rapid decay of the wood work has revealed that the "palisades" covered a hard core of stone work.

Willoughby's cogitations proved to be remarkably prophetic, for the fort *was* attacked by a European force, which equipped as it was with a mountain battery, even then found Sina's fort a tough nut to crack, as the following extract from Dundas (1923) reveals:—

> "The advance for the attack on Sina's fort commenced before dawn on 11th February 1890. The fort was situated on a high ridge on the further side of a stream and the troops had barely crossed the water when the advance guard was fired on from a banana grove above them. The fire was not returned until the troops had got to within 200 yards of the fort above them, the first deep trench of the defences was crossed and the hill was stormed at the double but from banana groves, from trenches, holes in the ground as well as from the tree tops a constant fire was maintained by the enemy and soon every foot of the ground had to be fought for before the fort was reached. This was surrounded by trenches of the astonishing depth of 10 to 15 yards and of such breadth that they had to be bridged under fire which was directed from trenches and holes and even from a high tower from which Sina's flag flew.

Each trench was protected by a strong hedge which hid another trench and of these works there were five or six around the actual inner fort. *The doors were of such thickness that Mauser bullets could not pierce them and the shells pierced through without destroying them.* (My italics). A certain number of the defenders were armed with breech loading rifles but the majority fired muzzle loaders filled with bits of lead and nails which made ugly wounds.

By noon the troops had pushed on so far that they occupied the open space in front of the inner fort. The whole of Sina's stock had been captured but his flag still waved and the shouts of derision from the enemy were louder than ever. The levies had fled and while the firing of the enemy was unceasing it coulld not be returned as they remained invisible to the troops. At 3 p.m. the heat and thrist had exhauted the troops and ammunition began to fail wherefore Wissmann saw himself obliged to withdraw, especially as he was ignorant of the number of defensive works which still remained to be taken. The withdrawal was carried out under shouts of defiance and derision from the defenders of the fort, sharp shooting continued the whole day and at night. Sina and his people clelebrated the occasion by a great war dance which however was dispersed by a maxim gun trained and fired in the night by Wissmann himself. During the night Sina was busy repairing and improving his defences and was fully prepared for a renewal of the fight. Wissmann seeing that his ammunition was nigh exhausted decided to storm the fort and on the following morning this was destroyed and all stock captured but Sina himself had escaped; a disaster was narrowly avoided as Sina's underground powder magazine exploded just as Dr. Bumiller noticing the danger, had managed to drag his people out into the open.

A deputy was thereupon sent to find Sina who readily submitted and sent rich presents. Peace was concluded by Sina's agreement to surrender two districts to Mandara and to release the Chief of Uru whom he had taken prisoner."

This fight commenced either on 11th February 1890, Dundas (1923) or 12th February 1890, Dundas (1924). The discrepancy doubtless arises from the fact that the attack was commenced before dawn, so it would be safe to say, in police parlance . . . "on the night of 11th-12th February."

Other forts described and illustrated in literature are, firstly, Horombo's forts at Keni. Two of these are illustrated by Dundas (1924) facing page 72 with the identical photos produced in Dundas (1932) facing page 66. The picture of the fort built by Horombo for his brother shows this to be of considerable dimensions. His own fort is described by Dundas (1924) page 73 as under:—

"Six years were occupied with the construction of his fort and those of his brother and general at Keni; thousands of people were employed on the works, which are still well preserved. The walls

of these fortifications are some six feet high, and in length 305 yards on the south side, 443 yards on the north, 227 yards on the east side and 147 yards on the west side, where the wall was never completed. The southern wall encloses a vast graveyard in which Horombo was wont to have all prominent men buried that he might know they were dead and had not gone out of the country to work mischief against him. Near to the exit leading to a smaller fort higher up, is a place known as "the court of sorrow;" here the Usseri people paid tribute of the last that was left to them, namely their cooking pots; a little beyond is the site of Horombo's forges where he had arms manufactured for his warriors."

..."Horombo rejected the Marangu men as fighters and instead compelled them to work on his fortifications. The ruins are surrounded by great trees brought from Marangu and planted by the Marangu people to their perpetual shame."

There is also a reference in Dundas (1924) to the fort of Rongoma at Kilema described as "a large circular stone wall enclosing several minor stone defences." Finally, Marealle's fort at Marangu is probably the most accessible to visitors, besides being the most recent. Like the Kibosho fort, this structure has been a prey, not only to time, but also to the local builder. It is, however, well worth a visit, easily arranged either by the fleeting tourist — as the motor road passes through the structure — or by the more leisurely visitor staying in one of the nearby hotels; for these latter, a visit to the fort not only provides a pleasant evening stroll, but on clear days presents magnificent views, of both Kilimanjaro, and the Pare mountains, with Lake Jipe and the **nyika** country in the distance.

As stated above, none of these works are thought to be of any great age. In the genealogical chart in Dundas (1932) facing page 160, Horombo of Keni is shown as dying in 1802, whilst Rongoma of Kilema is roughly contemporary with Horombo. Sina of Kibosho died in 1899 and Marealle of Marangu even more recently. (c. 1917) Thus it is obvious that none of these buildings are of any great age. Rather than a manifestation of indigenous genius, it seems more likely that the idea was acquired from the Arabs who, albeit in small numbers, were known to have penetrated the area in the early nineteenth century. Some confirmation of the late adoption of stone forts may be deduced from the fact that the early travellers encountered palisades and trenches only. Rebmann, on his visit to Chagga 1848, records trenches only, but New visiting in 1872 mentions (as quoted by Forbes-Watson, 1951) that the Chagga dug trenches everywhere, built high thick stone walls, and strong bomas. Thomson visiting Chagga in 1883 described a visit to Mandara's as follows:—

"Mandara's residence consists of a number of conical well-built huts, in which are housed his fifty wives or more. His own private abode is a quadrangular house built after the Swahili type, and plastered with dung and clay. These buildings, to-

gether with a number of sheds for sheep and goats, and enclosures for fowls are surrounded **by a triple palisade of tree trunks of great strength."**

The next year Johnston visits Mandara and describes what he finds as under:—

"As we wound along the hill-side towards Mandara's, we found the narrow path choked with lowing kine and bleating goats. At the approach of war and invasion the inhabitants of Moshi were driving all their cattle to Mandara's fortress. Thither we also went our way. Ordinarily the chief would pass his days in a circle of four or five bee-hive huts and open sheds, surrounded by a low hedge... and exposed to view from the village green; but in troublous times he withdrew to an extraordinary fastness which merits a word or two of description. To the south of these visible huts, which to an unsuspecting passer-by constituted the entirety of Mandara's town, rose a dense grove of unusually fine bananas. The initiated who wished to approach the hidden citadel wound through their cool green shade by circuitous paths, patent to all at this time by the press of cattle that thronged them, and then arrived at a stockade of living forest. The chief of Moshi had girt about his stronghold with a compact band of trees, dug up by the roots as saplings and planted alive, so that with a year or two's growth their trunks had thickened and left no space between. Further, they were planted in the outer works four deep, and, being alive and green, their network of foliage masked the fortress with a living grove which would not be set fire to with the same ease as a stockade of dead timber. One small opening alone appeared, through which cattle could just be pushed, and which, during a siege, was closed with heavy wooden doors and guarded with the two small cannon Mandara possessed.

We made our way through the lowing herds of cattle, passed many minor bulwarks and hedges, and at length arrived before a large building of wattle and clay, shaped almost like a European house. Herein Mandara was sitting with his wives and children, and, in strange contrast with his usual majestic demeanour, seemed quite tremulous with fear. His western borders were being devasted unopposed, and all his soldiers were engaged in fierce battle on the southern side."

This description tallies ill with Dundas (1924) when he states on page 96 that "Only Rindi" (i.e. Mandara) "scorned to resort to such safeguards, and bade his people plrovide neither forts nor refuge places, but face their enemies in the open."

Another aspect of Chagga defence, of which the writer has no personal knowledge, concerns trenches. Of these Dundas (1924) states "Almost every country was secured by great war trenches which were everywhere to be seen at the present day, and are often still of great depth." As a specific example he quotes Chief Kirami of Kirua who "now drew a deep trench along the western side of his

country from the forest to the plain." The remains of this trench were 15 foot deep in 1924. Such trenches are called **mkuga**.

These trenches were mentioned by the very earliest European traveller who has left us a record, namely, Rebmann, who first visited Kilimanjaro in 1848. His account, recorded by the Missionary, Krapf, and re-published recently by Loftus (1950) runs as follows:—

> "Rebmann noted that the Chagga king had so much authority over his people that they seemed to be his slaves, whereas among the Wakamba, Wataita and Wanyika people no individuals were given high authority in the tribe."

> "He was told of the Chagga custom of taking all the boys of the tribe from their mothers as soon as possible to be trained as guards to the king. and to form a kind of Public Works Department. They had to look after the watercourses (which are still to be seen irrigating the gardens) and the trenches of defence."

Another visitor, Charles New, writing of Chagga in 1872 noted—as recorded by Forbes-Watson (1951)—that the country was defended by the deep broad trenches which the Chagga dug everywhere; these being additional to the stone walls and palisades mentioned above.

BOLT HOLES OR DUG OUTS

A less conspicuous expression of local defensive genius is to be found in the series of underground bolt holes or dug outs constructed through Chagga land, of which few remain intact today. Dundas (1924) on page 95 describes these structures as follows:—

> "Deep dug outs excavated under the huts and often leading to underground passages, with outlets at some distance, were used for refuge."

Wynn Jones (1940) describes these structures more fully and graphically. For the sake of scientific accuracy, a more detailed description follows. It is hoped through efforts of Government and the Native Treasury that at least one of these structures will be preserved in perpetuity, but being excavated in soil, and not rock like the Gweno bolt holes, there is a danger of eventual collapse. Should this, unfortunately, take place, a detailed record with accurate dimensions will assist future generations to reconstruct their country's past.

The sectional representation of a Marangu bolt hole reproduced by Wynn Jones (1940) (Fig. III), gives a clear idea of the lay-out of these underground tunnels: but if, as is thought, this represents the example to be found at Marangu halfway between Kibo Hotel and the Court House, almost opposite Chief Petro Itosi's residence, this diagramatic representation is not strictly accurate. A plan of the workings has been prepared and is reproduced as Fig. II, from which it will be seen that the total length of the structure is about 150 feet consisting of a long winding tunnel opening out at intervals into hemispherical caverns. At the time when preservation was first

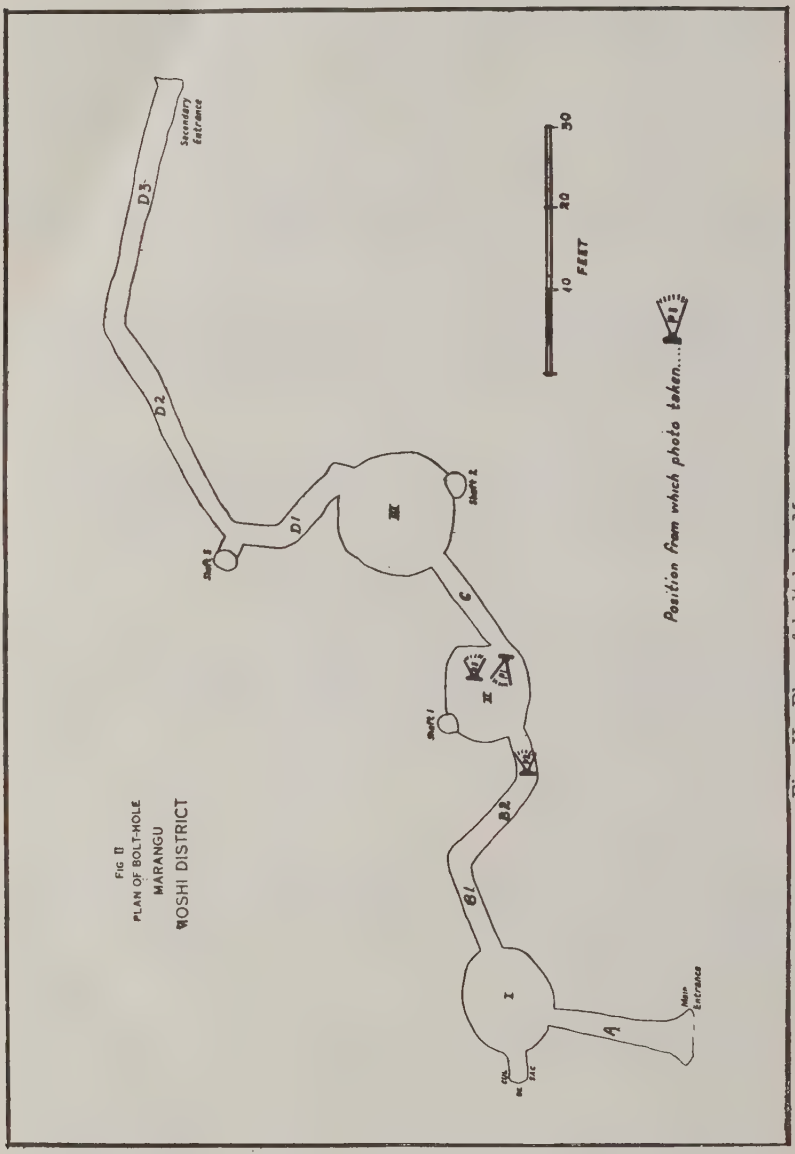


Fig. II—Plan of bolt hole, Marangu.

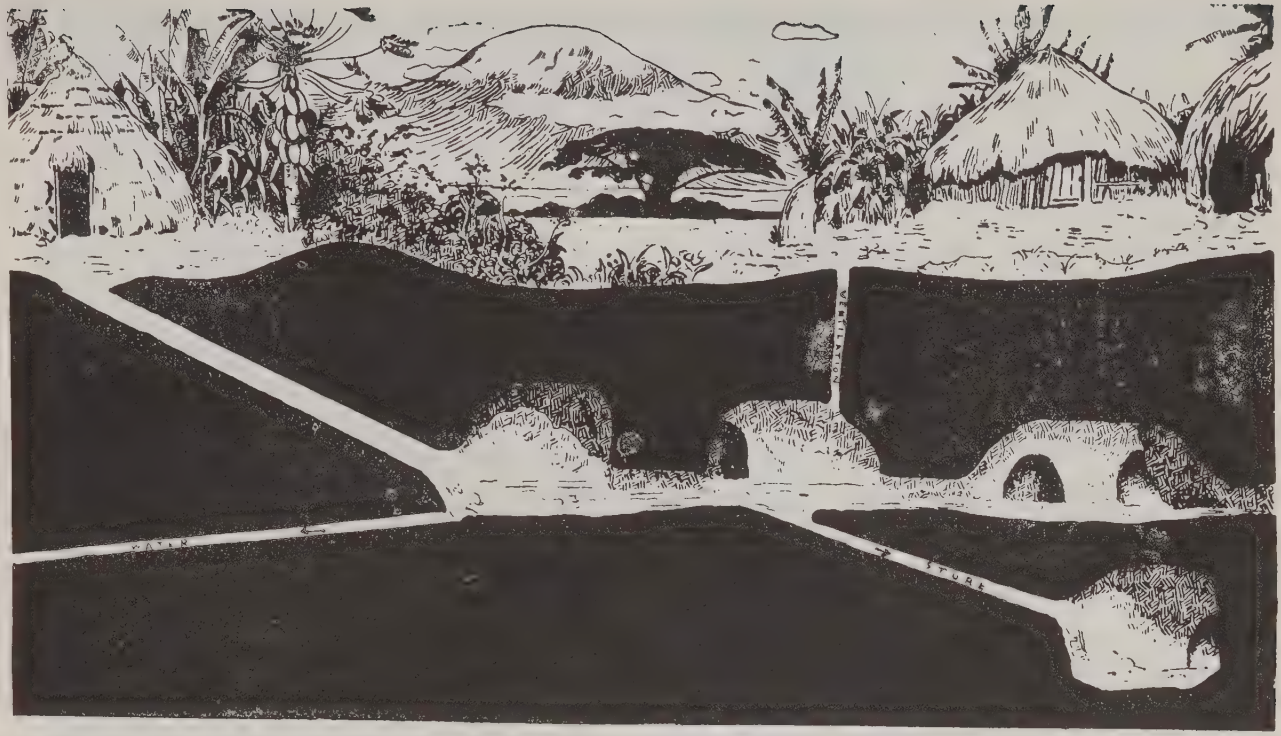


Fig. III.—Section of Chagga village showing underground tunnels and cattle enclosures, kitchens and living quarters in time of warfare.

undertaken in 1951, the ceilings of these caverns had crumbled and deposited a considerable amount of debris on the floors. Fig. IV, a flash photo of the chamber marked II on the plan, shows the extent of collapse; the debris has subsequently been removed. Fig. V shows the same chamber with a tunnel entry on the left. This shows that the Chagga tunnels differ from those of the Pare by having a flat floor, vertical sides and an arched roof. The illustrations accompanying the Gweno article, T.N.R. No. 35, show the Pare tunnels to be much more circular.

In Fig. IV also, in the top right-hand corner can be seen one of the air shafts where it penetrates the roof of the chamber. This and shafts 2 and 3 were entirely blocked by stone and **shamba** rubbish thrown down in the course of cultivation and it was only the internal exits in the ceilings of the caverns and passages that enabled them to be found and cleaned out.

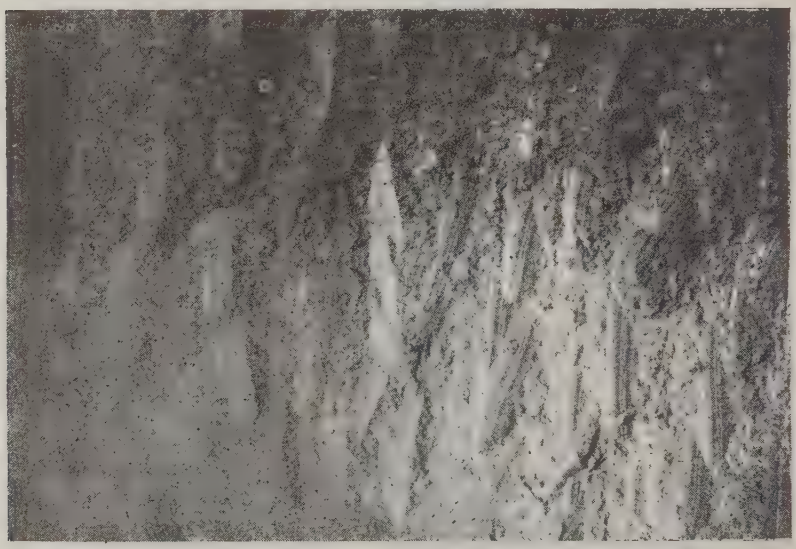


Fig. VI.—Hoe marks on wall of chamber II.

The construction of these workings must have presented little difficulty at Marangu where a red volcanic clay could easily be dug with the tools available at the time. It is of considerable interest that the actual hoe marks can still be discerned on the walls of the chambers: Fig. VI shows a close up of such workings. The area represented in the photo is 27" broad by 18" high; from this it can be deduced that the hoes employed had blades little more than one inch in breadth. This fact is also known from other sources and indicates the scarcity of iron that prevailed in pre-European days.

In Kibosho, on the other hand, greater constructional difficulties were encountered as witness the following extract from Willoughby; **op. cit** — pages 214-215, concerning his visit in 1887:—

Fig. IV.—Looking into chamber II. From passage B.2. showing heap of earth from ceiling; now removed.

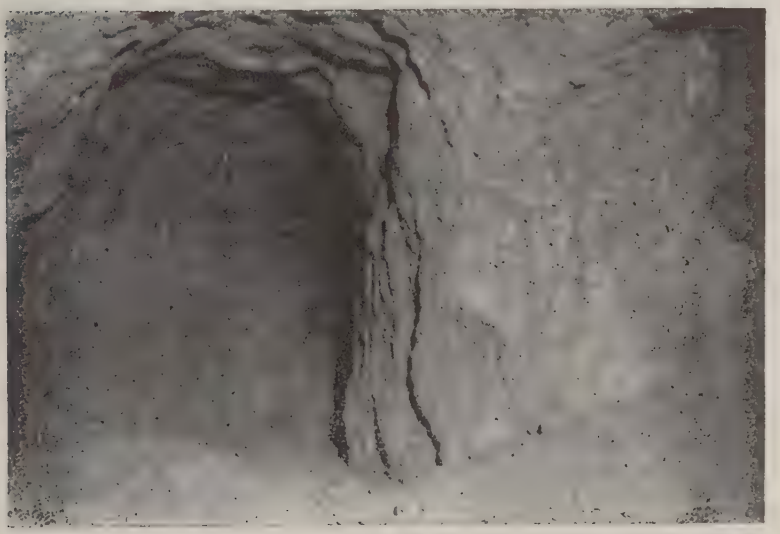


Fig. V.—Passage into chamber II with air vent, shaft I, top right.

"We paid Sina one or two visits inside his fortress, and examined the excavations he was making, at this time, which were really wonderful, and proved him to be no mean engineer. His object was to undermine the whole village with enormous caves and long underground passages, which should represent a place of refuge for the cattle and the women and children, in the event of any sudden attack being made. He had established a law to the effect that any man who took refuge below, instead of remaining above to repel the attack, was to be punished by death.

The excavations were being executed in the following manner: a series of shafts from two to three feet in diameter were sunk some twenty to thirty feet, and these were connected, by underground tunnelling and excavating, until a succession of large caves and passages were formed, the latter being about eight or nine feet wide and seven or eight feet high. As each excavation was completed, the surface of the original shaft-hole was filled in with earth and sticks, and a little point of ivory stuck into the ground, with the double object of marking the spot and acting as a charm

The whole of this laborious engineering was being executed with the aid of a single tool in the form of a crow-bar made out of the barrel of an old gun, and with this ineffective implement they managed to bore through the volcanic rock immediately underlying the surface-soil, specimens of which I brought away with me. The loose earth and rock debris were conveyed to the surface from below by means of wooden boxes attached to long whip-like stems, of requisite length, tied together. At the time of our visit this stupendous undertaking, though considerably advanced, was likely to prove an heirloom to be completed by a succeeding generation."

This interesting contemporary account, in addition to its value as a description of these bolt holes under construction, reveals the comparatively recent age of these works. The fact that the earlier travellers, Rebmann (1848), New (1872), Thomson (1883) and Johnston (1884) failed to record the existence of these tunnels, does not necessarily imply that they did not exist — their existence was more likely concealed from such visitors. No entrance to the Kibosho workings is now known to exist, though excavations might reveal the underground workings to be in reasonable condition, as was found in the case of the Marangu bolt holes.

The instance of the actual use of such bolt holes is described by Dundas (1924) on page 91:—

"About that time also" circa 1880, "some of Sina's men had been murdered by Kinabo's brothers, and Sina used this as a pretext to invade Marangu. The people at once took to the dug-outs under the huts which were in that time commonly used for defence, and Sina would have suffocated them with smoke, but

being reminded that he had come to set up Mareale as Chief and not to kill his subjects, he desisted from his plan, and assuring the people that he intended no harm, induced them to come to him, and announced that he had brought them their rightful Chief. This announcement was received with great joy, and Sina departed in peace. After this the people named their young Chief Malyari, which name has since been corrupted into Mareale by Europeans."

The account given in Swahili by Dundas (1932) is substantially the same but adds the following interesting detail, namely, that when Sina was reminded that he had come to establish Mareale as Chief and not to kill his people "these worlds calmed Sina down and he left them" the people in the bolt holels "unmolested' except that he brought them out from their caves by diverting on to them furrows of water."

It is noticeable that this smoking-out technique was employed by the Masai in Mbulu and by the Germans in Pare — see previous articles. This probably accounts for the number of air shafts to be found in the more recent workings, as at Marangu.

As has been mentioned above, efforts have been made to restore one example of these sub-terranean workings in the hope that they will provide interest, not only to the alien tourist, but more particularly to Chagga children of future generations so that their history may become more vivid and provide a back-ground to the literature and art which will most certainly develop amongst these progressive people. The present emphasis on economic materialism must not be allowed to obscure the value of such relics, which will require a small but steady supply of funds for their maintenance. It seems appropriate, therefore, to draw attention to a Chagga proverb recorded by Dundas (1924):—

Manya ulamine upanga ulemuowa — "Do not neglect the cave that sheltered you."

CONCLUSION

A consideration of these forts and du-outs and the local wars which brought them into being emphasizes one point, contrary to a widelly held belief, it was not the Masai who drove the Chagga — and other hill tribes — high up into their "mountain fastnesses" as they are so frequently called. On the contrary, it was the agriculturalists who voluntarily chose that environment. High standing forest and that thicket to be found below such forest had no appeal to the pastoralist; nor was it the sort of country that the spearmen of the plains cared to fight in. An incident recorded by Dundas (1924) brings out this point, and also proves that the Masai at times co-operated with the Chagga; it concerns the last battle between Sina and Rindi in 1888. "The force assembled must have been very considerable, and included also a number of Masai, but the attack was only partially successful and a great number of the invaders were slain, particularly the Masai, *who were unaccustomed to fighting of this type and in such country.*" (My italics).

The same conclusion was drawn by Willoughby (1889), a con temporary observer of fighting in this part of the world who states

that the Masai were unable to raid the Wataveta owing to the bushy nature of the latters' country. "The brave Masai, accustomed as they are to fight only in the open, and to rely entirely on their long spears, short swords and shields, would soon be disposed of in an enclosed and to them strange country...."

It is thus safe to conclude that the enemies against whom these forts and dug-outs were constructed were almost invariably the defenders fellow-Bantu. Not only were the petty Chiefs of Chagga constantly warring one against the other, but at times the Chagga went further afield. It is recorded that "Rindi also raided Pare as far as Same. Arusha Chini was likewise raided, and even the Masai as far as Loita were subdued and looted. Finally Rindi and Ndeseruo made a joint expedition into Usambara and acquired great booty there."

Those with a knowledge of local geography may doubt whether the Chagga ever raided as far as Loita, the distance being about 150 miles through inhospitable country largely inhabited by Masai; nor is it clear how on arrival they "subdued" the Masai; the most they could have achieved at such a distance from their base would have been a tip and run raid. The Chagga did, however, come into conflict with the Masai whom Horombo in the late 18th century tried to extend into the plains, thus described by Dundas (1924):—

> "The real cause" of the quarrels "was most probably the pasture on the plains, which Horombo required for his immense herds, and where the Masai had for generations herded their flocks. Open hostilities broke out when Horombo contrived to have a Masai herd driven up the mountain mountain slopes and seized by his men. When the Masai came to negotiate with him on this account, they were bluntly told that if they wanted peace they must withdraw from the plains. A fierce fight resulted, lasting several days, and ending in the complete defeat of the Masai, who were pursued and driven across the Engare Len, or Rombo River, as it has since been called by the Wachagga. Desultory war continued during fifteen years in which the Masai were rigorously kept out of the plains south of this river."

The ultimate outcome was of interest: first Horombo's son was killed in an affray with the Masai; in which there were only two Chagga survivors. Horombo sought revenge by mobilizing his whole force against the Masai, but he was defeated, and he himself was killed. Finally the Masai gradually re-occupied the country from which Horombo had sought to restrain them from using.

The position can be summed up by concluding that the Masai and the Chagga were generally non-competitive in their demands on land, the former preferring the plains and the latter the hills. Thus wars of expansion were at a minimum, whilst in wars of pillage the Masai tended to direct their activities against other fellow plainsman and the Chagga against each other and against neighbouring Bantu groups.

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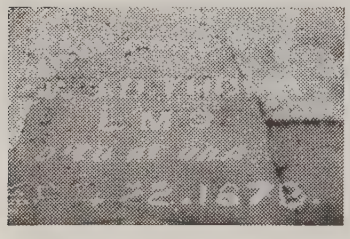
A EUROPEAN GRAVEYARD AT KIGOMA.

By Sir John Gray.

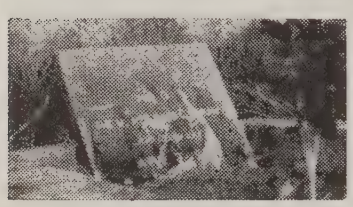
At the top of the hill behind the Government Hospital at Kigoma there are three graves each with its headstone.

One grave has the following inscription:—



I.M.O.
REV. J. B. THOMA
L.M.S.
DIED AT UJIJI
SEPT. 22, 1878.

The second reads as follows:—



I.M.O.
REV. A. W. DUDGSHUN
WHO DIED IN UJIJI
AP. 3, 1879.

The third grave, which is the finest and best preserved, has the following inscription:—

ABBE' DE BAIZE
MORT A' UJIJI
12.12.1879.

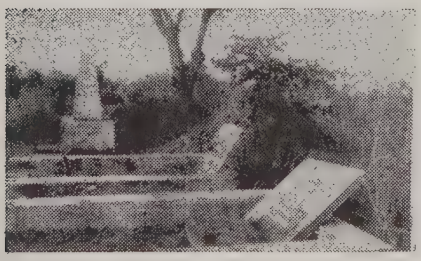
None of the present slate headstones are original. Each of them has been embedded on an earlier slate stone, new lettering having been inserted where the earlier lettering had disappeared.

The first two graves are those of members of the London Missionary Society, which sent Livingstone to South Africa in 1841. Their decision to send missionaries to work on the shores of Lake Tanganyika was prompted by an offer of £5,000 from Robert Arthington of Leeds towards "the purchase of a suitable steamer and the establishment of a mission station at

some eligible place on one of the shores of Lake Tanganyika." The first expedition consisted of four ordained ministers and two laymen. The leader of the party was the Rev. Roger Price, who already had nineteen years' service in the mission field in South Africa, his first station being the same as Liginstone's first station, namely, Kuruman. Two of the other three ordained ministers were Arthur William Dodgshun (*not* Dudgshun as on the headstone) and John Boden Thomson (*not* Thomas, as the headstone appears to suggest). One of the two laymen was a master mariner named Edward Coode Hore, who resigned his employment with the P. and O. Line to become a lay member of the mission. He it was who launched the first steamer on Lake Tanganyika and his *Tanganyika: Eleven years in East Africa,* is a most readable book. Thomson had had seven years' previous experience as a missionary in Matabeleland in the days when Lobengula ruled supreme in those regions. Dodgshun had only recently left Cheshunt College but in Hore's opinion was a "well fitted recruit" for the mission field. Both he and Thomson had received special medical training.

With his South African experience, Price decided to experiment in the use of bullocks for the carriage of the expedition's baggage from the coast to Ujiji, but the tsetse fly put an end to the experiment. Price then returned to the coast with a view to persuading missionary headquarters in London to establish a chain of posts along the road into the interior, instead of pressing straight on to the Lake. The leadership of the expedition then devolved upon Thomson. It was decided to divide the expedition into two parties. Thomson proceeded with the leading party whilst Dodgshun remained with the other party.

The advance party reached Ujiji on August 23, 1878. Thomson had been very seriously ill at one stage of the journey and had never fully recovered. Three weeks after reaching Ujiji, he again became very ill and passed away on September 22, 1878. "He had lived," wrote Hore, "to prove the ability, devotedness and self denial which enabled him to carry out his important duties, which had carried him forward, fearless of all perils, and made him faithful unto death."



Dodgshun, who was bringing up the rear, did not reach Ujiji until March 27, 1879. It had been a difficult and trying time for him and the last month's travelling had been made under particularly serious difficulties and hardships and without a proper outfit. He reached Ujiji a tired and worn out man. Seven days after his arrival he passed away. "In the midst of his deepest difficulties and greatest weakness," wrote Hore, "his determination to devote his life to the work he felt called to had not abated."

Despite the title accorded to him, Michel-Alexandre Debaize was not a missionary. He came to East Africa under the auspices of the French Government. In 1878 the Chamber of Deputies had voted the impressive sum of 100,000 francs to equip him for a journey across Africa from east to west. He was a young man of thirty-three, with no previous experience of Africa or of geographical exploration. But what he lacked in experience he made up for in an enthusiasm which so impressed a number of learned French societies that they supplied him with scientific equipment of every description. "To be able to use a tithe of them," wrote the explorer Joseph Thomson, "he must have been a perfect encyclopaedia of science."

His outfit contained some extraordinary items. When Joseph Thomson went through what remained of them at Ujiji shortly after the Abbé's death, he found (*inter alia*)—

> 12 boxes of rockets and fireworks (each requiring four men to carry it),
> several boxes of dynamite,
> two large barrels of gunpowder,
> two coats of armour,
> two loads of "penny popguns," and
> a load of small bells,
> one "hurdy-gurdy" (barrel organ).

Joseph Thomson could only surmise that this last item was intended by means of its charms "to soothe the savage beast," and that the armour was intended to be donned, if the "hurdy-gurdy" failed to achieve that purpose!

The Abbé set off from Bagamoyo with a caravan of eight hundred porters. "A little army," was the comment of a compatriot who saw him off, and at its head "a young and inexperienced general." But the leader was determined to win through. "The thought," he wrote to a fellow countryman, "that I am working for the glory of God and the glory of France will sustain me in all my trials." He seems to have fared fairly well as far as Tabora. After that trouble followed upon trouble. He was attacked by night in thick forest country by brigands. Worse still, his porters began to desert him and he had to leave behind or destroy a large part of his equipment. Before levanting, many of the deserters emptied his bags and his bales and substituted sand or grass for their contents. Eventually he reached Ujiji in March, 1879, a thoroughly weary and overwrought young man.

The White Fathers' Mission had a station at Ujiji, but the Abbé took offence with them because they declined to leave their Church to welcome him immediately on his arrival. He not only roundly abused them, but started to parade Ujiji firing off his revolver. The members of the London Missionary Society then offered him hospitality and thereafter assisted him in many ways. He set out for the northern end of Lake Tanganyika, where he quarrelled with a local chief and set fire to a number of huts. The members of the London Missionary Society at Ugaha managed to extricate him from this

trouble. He then became very ill and nearly blind. Once again the missionaries came to his rescue and nursed him. When he had somewhat improved, he crossed over to Ujiji, where he fell ill again and completely blind. Hore tended him as best he could until the end, which came on December 12, 1879. Almost to the very last day he never despaired of winning through. Three months before his death, whilst he still had his sight, he wrote his last letter to M. Greffulhe, a compatriot in Zanzibar. The last words of that letter were: "I am sure to succeed."

The London Missionary Society abandoned their station at Ujiji in 1884, and finally gave up the last of their other stations at the northern end of Lake Tanganyika in 1895, when they transferred their activities to what is now Northern Rhodesia. During their stay on the shores of Lake Tanganyika their dead numbered close on one-third of those sent out. Besides J. B. Thomson and Dodgshun they included:—

1. Rev. Joseph Mullens, D.D. (Foreign Secretary of the Society; died July 10, 1879; buried at C.M.S. Station, Mpwapwa).
2. David Williams (died at Urambo, September, 1881).
3. Ebenezer John Southon, M.D. (died at Urambo, July 21, 1882).
4. John Perry (died April 21, 1883; buried at C.M.S. Station, Mpwapwa).
5. Joseph Henry Dineen (died at Ugaha, July 25, 1883).
6. James Dunn (died at Ugaha, March 6, 1884).
7. John Harris (died at Niamkolo, May 29, 1885).
8. George Brooks (murdered near the coast in 1889).

Recently the graveyard at Kigoma has been cleaned up and surrounded by a low minyara hedge by Mr. W. B. Davis, District Commissioner, Kigoma, to whom I am indebted for photographs and information regarding the graves.

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A NOTE ON SOME TOMBS AT KAOLE.

By G. Hunter.

The ruins of the former Islamic settlement at Kaole near Bagamoyo, situated by a creek below the modern village of the same name, consist of the remains of two mosques, one larger than the other, and two separate burial grounds. These ruins have been briefly described in an earlier issue of *Tanganyika Notes and Records* (1).

One burial ground lies nearly midway between the two mosques and contains a few scattered walled tombs bearing a variety of ornamental headstones, together with one pillar tomb. The other cemetery is situated beside the ruins of the larger mosque and is dominated by a tomb bearing a tall pillar, approximately 33 feet in height.

At one time many of the tombs were decorated with plates and bowls cemented into their structure, but these have been removed in the past leaving only two bowls set in the top of the tallest pillar.

A grey-green glazed bowl from the pillar tomb.

To prevent the loss of the two remaining bowls and the evidence which they provide, it was decided to remove and preserve them in the museum at Dar es Salaam. The writer wishes to acknowledge the assistance given by the District Commissioner and Liwali of Bagamoyo in obtaining permission for their removal.

The pillar tomb from which the bowls were removed together with the remains of several similar tombs situated nearby form a distinct architectural group within the cemetery. Four walls of coral-rag enclose a rectangle. Three walls are plain and about 5 feet in height, while the fourth or head-wall, which stands about 6 feet high

Details of face of pillar tomb at Kaole

and faces approximately East, is divided centrally by a tall pillar. An ornamental pilaster is placed at each side of the head-wall, presumably to match and balance the basal part of the central pillar. The remaining ornamentation consists of a panelled frieze, framed by strips of dressed coralline limestone, running along the top of the head-wall.

The pillar of the tombs is basically square in section, but several of the taller examples have been finished and strengthened with short lengths of cut limestone, triangular in section, mortared in at each corner, which gives the structure an irregular octagonal form.

There are two main variations in the detail of design amongst these structures at Kaole. On the tombs placed nearest to the mosque the pillars, which, by virtue of their narrow basal sections, were probably no more than fifteen feet in height, were cut through by the panelled frieze while one tomb built well away from the mosque has a sloping shoulder set on either side of the pillar where it joins the headstone. It is thought that this latter tomb is slightly later in date than those built close to the mosque.

The cemetery by the large ruined mosque at Kaole. Two Celadon bowls are inset in the upper part of the taller pillar.

It is possible that the pillars were surmounted by stylised turbans carved in stone, as there are several fallen among the tombs, but none now remains in position. One of these tombs is built against the northern wall of the larger mosque, showing that the mosque was in use at the same or an earlier date.

At Ndagoni, on Pemba Island, tombs of identical design have been found and part of a bowl cemented into one of the pillars was identified by Rackham as Chinese Ting ware of the 13th century or earlier (2).

The two bowls removed from the pillar of the tomb at Kaole are celadon wares from China and are of a type made in the 14th century and earlier. The bowl placed uppermost has a dark grey porcelanous-stoneware body covered with a grey-green glaze. The footring is small and square-cut and without glaze inside. The second bowl is of similar design and proportions but has a light-grey body and a smooth, subdued, sea-green glaze.

Pottery found cemented into the structure of a tomb can only be used to asess the earliest date at which the tomb might have been built, but the discovery of Chinese bowls of a broadly similar period of manufacture cemented into tombs of the same design, at widely separated sites, suggests that this particular type of pillar tomb- distinguished by a narrow panelled frieze of dressed limestone and ornamental pilasters on the head-wall was a product of the 14th century and possibly earlier. The large ruined mosque at Kaole would belong to the same period.

Pillar tombs of the same type have been found at Tongoni, sited close to the ruined mosque (3). A date scratched on the plaster of the East Wall of the mosque is read by the local people as 609 A.H. (A.D. 1214) (4).

The evidence available suggests that, in the 14th century or earlier, settlers of the same architectural tradition were inhabiting the sites of Kaole, Tongoni and Ndagoni.

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AFRICAN HARVEST DANCE.

By V. Eugene Johnson.

The Turu tribe of Central Tanganyika puts on each year a dance which is probably the most colourful and elaborate of all the native dances of East Africa. It is held to celebrate the ingathering of the harvest and continues about three weeks. The men and youths, who are the chief participants in the dance, decorate themselves for the occasion by wearing all sorts of grotesque headdresses, and by painting their faces and naked bodies with all kinds of fantastic designs of white lime, yellow and red ochre, and with whatever other colouring may be available. In recent years, laundry blue obtainable in the

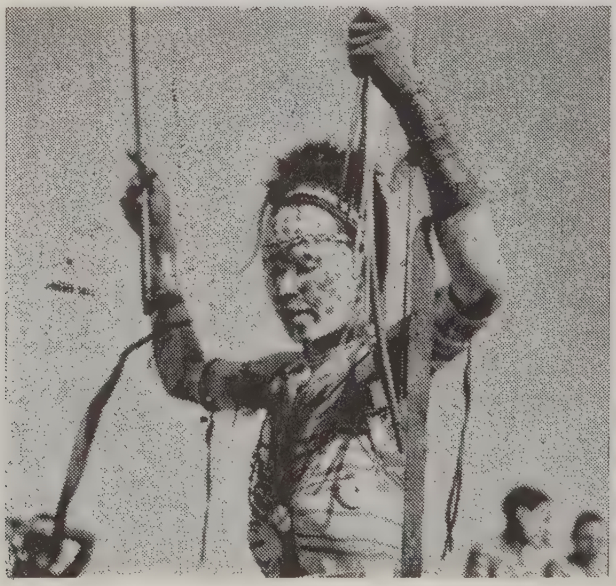
Groups of male dancers, standing shoulder to shoulder and all facing in the same direction, rythmically rise on their toes and contort their bodies, while the strike together, all in unison, bows and kerries or knobbed clubs about three feet long. Apart from this they indulge in very little movement.

The performers kneel and clap their hands together as they start the dance.

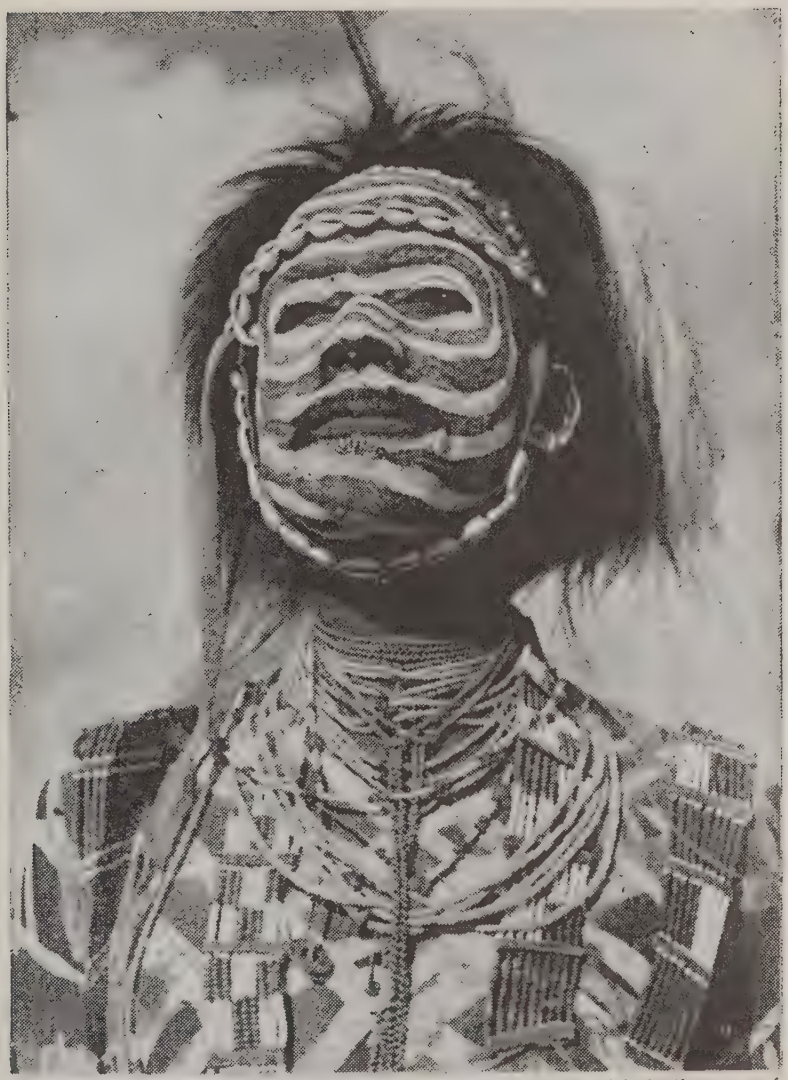
In most of the dances the men and youths combine themselves into small groups which vie with other groups for top honours in the dance.

Arab and Indian shops in nearby villages, has been added to the assortment of pigments with which these Beau Brummels seek to make themselves the chief attraction at these harvest festivals. The women and girls play a very minor role in the dance, and wear only their usual clothing, which for the most part consists of home-tanned skins, often decorated with coloured beads.

Only the men and youths take part in the actual dancing, in most of which they combine themselves into groups of up to a dozen individuals, standing shoulder to shoulder, all facing in the same direction, with comparatively little other movement than a slow, rhythmic rising on their toes, and contortions of the body, while they strike together, all in unison, bows and kerries or knobbed sticks about three feet long. The incidents and implements of the dance have a sexual significance especially with respect to fertility. From time to time groups of women and girls, in number the same as the men and youths in corresponding groups, step away from the side lines and present themselves for a minute or two before a group of dancing, chanting men and youths, after which they retire again to the side lines to be only spectators throughout the rest of the dance. At intervals certain leaders, usually more fantastically decorated than their companions, step away from their group and dance solo with great intensity before the whole assembly going through all sorts of physical contortions. It is probably fortunate that the dance is held only in the daytime.

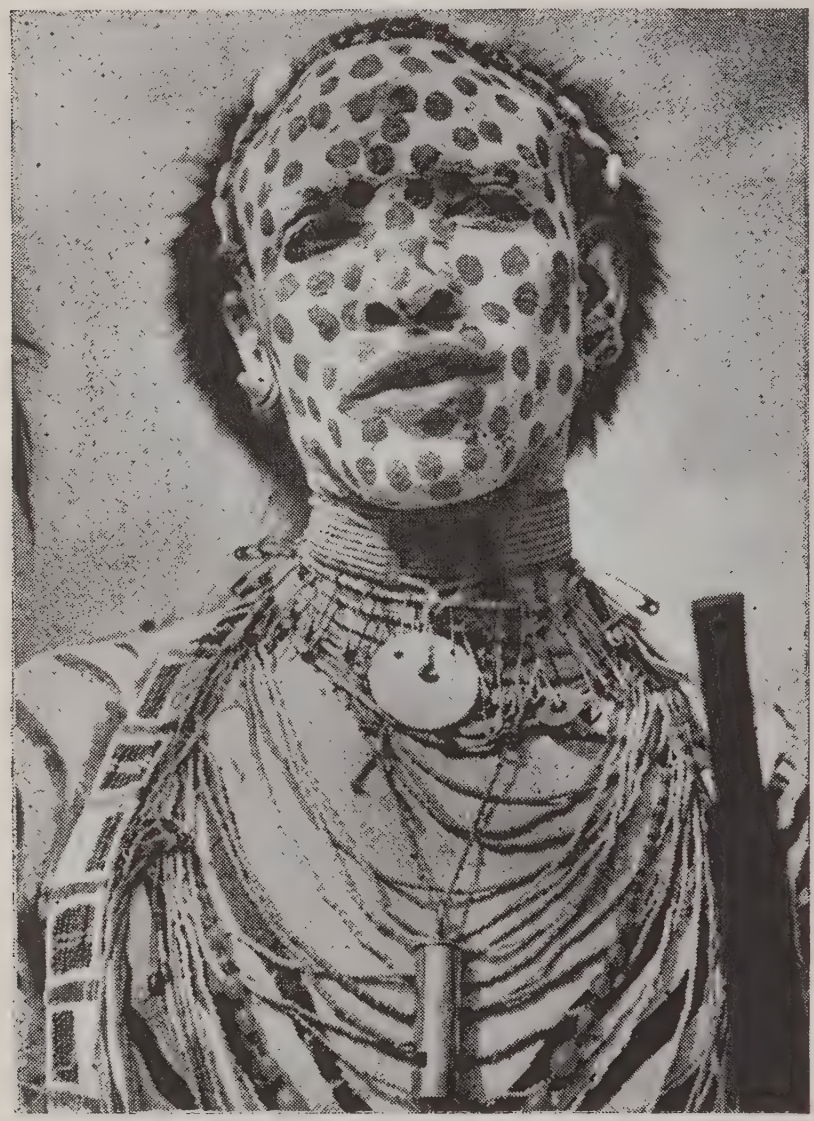


At intervals certain group leaders, usually more fantastically dressed and decorated than their companions, step away from their group and dance solo with great intensity before the whole assembly.



Various headdresses, made of lion or baboon skins, or of ostrich feathers, or of anything else that may give distinction, are worn. The facial designs, painted with yellow or red ochre, or with laundry blue, require days to achieve, and are not removed throughout the entire period of the dance, which may continue a month or longer. Colourful beads, safety-pins, small shells strung together, and any other trinkets available are used for decoration. A Boy Scout whiste is also a prized accessory of the dance.

(See photo on next page.)



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Editorial

This is the first number of *Tanganyika Notes and Records* to be published quarterly and it is hoped that Members will agree with the recent decision of the Society to produce a Journal quarterly instead of twice yearly, the quarterly issue being about half the length of former issues. This should be more satisfactory for contributors, who may expect to see their work published more quickly than has been the case in the past and also for subscribers who, although they get less to read, will get it more often. This new arrangement does call for a regular supply of copy and, in adopting it, we place our confidence in the goodwill of our contributors. We also appeal to those who have read the Journal, perhaps for many years, but hesitated to present an article themselves; we are fortunate in having so many contributors with a high degree of specialized knowledge on a wide range of subjects but would like to emphasize that articles or notes of general interest are none the less welcome.

It is with pleasure that we record that His Excellency the Governor, Sir Edward Twining, G.C.M.G., M.B.E., has been so good as to accept the office of Patron of the Society.

Members will be interested in the letter published in this issue concerning the formation of the Tanganyika Archaeological Society which, under the chairmanship of Sir Eldred Hitchcock, C.B.E., promises to stimulate great interest in the many valuable archaeological sites in Tanganyika. The Tanganyika Society not only welcomes the new Society, which has already arranged for a distinguished expedition to visit Kilwa Kisiwani and its neighbouring islands, but is indebted to it for the courtesy of inviting the President of the Tanganyika Society to accept *ex-officio* membership of the Council of the Archaeological Society, thus ensuring that the two organisations shall work in close co-operation with each other. We hope during the next few years to publish in this Journal some of the results of the expeditions arranged by the Society.

Readers will see that the Government Printer has resumed the publication of *Tanganyika Notes and Records* and it is only fair to add that the delay in the issue of this number is due to two changes of Editor at the turn of the year and not to delay in printing. The journal will have to wait its turn with other material but, with the Government Press' greatly enlarged facilities, it should not have to wait long. We are grateful to the *Tanganyika Standard* and the Beauchamp Printing Co. Ltd., for the work which they have done for us until we could return to our former Printer and the original format.

NAIRUZI OR SIKU YA MWAKA

By Sir John Gray

E. C. Baker, in his article on "Tribal calendars" in *Tanganyika Notes and Records* xxxiii. 30-34 referred to *Kuoga Mwaka*, or annual bathing in the sea, which took place at Pangani as recently as 1935. As might be expected, a similar custom takes place annually in the islands of Zanzibar and Pemba. But when for purposes of comparison of the island custom with that of the mainland I made certain inquiries of the District Commissioner, Pangani, I was informed that it would appear that this custom has died out. At any rate nobody at Pangani claims to have any knowledge of it for the past ten years.

What is reported from Pangani may well be true of other places on the East African mainland. The old order is slowly but surely changing, yielding place to new, and at no very remote date there may well come a time when this once long-lived custom will have fallen everywhere entirely into desuetude. It is for that reason that I am venturing to give some account of the ceremonies attendant upon the custom not only as it is practised in various places at the present day, but also as they are known to have been practised in the past.

THE SWAHILI NAUTICAL AND AGRICULTURAL CALENDAR

At the present time the great majority of the Swahili and the aboriginal tribes in Zanzibar and Pemba profess Islam and have for certain purposes adopted the Muslim calendar. The same is true to a lesser extent of the African inhabitants of a number of the towns on the mainland. According to the Muslim calendar the year consists of twelve lunar months, but the Swahili have not adopted the Arabic names for those months in their entirety. Moreover, whereas the Arabic year commences with the month of Muharram, they make the year begin with the month which is the equivalent of the Arabic Shawwal, that is, with the month which follows immediately after Ramadhan. The only Arabic names of months which have been adopted by the Swahili are Rajab, Shabaan and Ramadhan. This last named month is also known to the Swahili as the *mwezi wa tumu* (the fasting month).* The opening month of the year is *Mfunguo Mosi*, which means literally "the first untying", otherwise—to use the words of Krapf (*Swahili-English Dictionary* p. 223)—the month which "loosens, as it were, the fast which during the month of Ramadhan (the last month of the year) has shut up the mouths of the people". *Mfunguo Mosi* is followed by *Mfunguo Pili* (the second untying), which in its turn is followed by the "third untying" (*Mfunguo Tatu*), and so on up to the "ninth untying" (*Mfunguo Tisia* or *Kenda*,) which immediately precedes Rajab.

This Muslim calendar is not infrequently used in letters and documents intended for circulation amongst Muslim Africans and co-religionists of other races, but otherwise it has little practical value. A year of twelve lunar months consists of 354 days, leaving a discrepancy of eleven days between it and the solar year. As there is no attempt at rectification of this difference by

*Shabaan is also known as *mwezi wa mlisho* (the month of feasting).

the introduction of intercalary days or months, we find that the month of Ramadhan — to take one example — occurs at all times of the solar year as it works its way round and that the Muslim year runs through all the seasons every $32\frac{1}{2}$ years. As there is no correspondence between it and the various seasons, the calendar obviously is of no practical value for the agriculturalist or the sailor.

As the C.M.S. missionary, J. L. Krapf, noted in his *Dictionary of the Suahili Language* p. 258, in addition to the Muslim calendar the Swahili make use of a calendar resembling "the Persian year of 365 days beginning with the Neruz, called in Suahili the *Siku ya muaka*. From this day the year is reckoned in decades, each decade being called a *muongo*. The year is called from the day of the week on which it commences: *muaka juma* (Friday year), *muaka al hamisi* (Thursday year)."

Each decade consists of ten days. The first decade is called *mwongo ashara* (the decade of the 10th day), *ashara* being the Arabic word for ten. This decade is followed by *mwongo ishirini* (the decade of the 20th day) and so forth up to the last full decade of *Mwongo thalathmia na sitini* (the decade of the 360th day). The last five supplementary days belong to the *mwongo thalathmia na sabiini* (the decade of the 370th day).

Each day of each decade is known by its numerical position in its decade. Thus, the first day of the five supplementary days is known as *thalathmia na mosi sabiini* (the first day of the 37th decade) and the last as *thalathmia na tano sabiini* (the fifth day of the 37th decade). This last mentioned day is also known as *Kifunzi* or *Kibunzi*. As already said, the first day of the new year (*mwongo mosi ashara*) is also known as *Nairuzi* or *Siku ya mwaka*.

The subjoined table, which sets out the days and decades of the Swahili year together with the corresponding dates in the European calendar for 1952-1953 and the principal agricultural operations carried out in Zanzibar during that year, may perhaps explain the method of reckoning more clearly :—

Mwongo	*European date*	*Remarks*
mosi ashara or Nairuzi or siku ya mwaka (1)	August 3, 1952 ...	New Year's day.
kumi ashara (10)	August 12	Last day of first decade.
kumi ishirini (20)	August 22	Last day of second decade.
arobaini (40)	September 11 ...	Mbaazi (pea) harvest.
sitini (60)	October 1	Mchoroko (pea) harvest.
sabaini (70)	October 11	Bush clearing begins.
mia (100)	November 10 ...	Pleiades rise. Bush clearing ends.
mia na ashara (110)	November 20 ...	Vuli planting begins.
mia na arobaini (140)	December 20	Unlucky to sow crops.
mia na khamsini (150)	December 30	Vuli planting ends.
mia na sabaini (170)	January 19, 1953 ...	Vuli harvest. Bush clearing begins.
mia na tisiini (190)	February 8	Masika planting begins.
mia miteni (200)	February 18	Pleiades overhead.
mia miteni na arobaini (240) ...	March 30	Unlucky to plant crops.
mia miteni na thamanini (280)	May 9	Pleiades set. Masika planting ends.
mia miteni na tisiini (290) ...	May 19	People leave their villages to go to the fields to guard their crops.
thalathmia na khamsini (350) ...	July 18	Masika harvest ends.
thalathmia na sitini (360) ...	July 28	
mosi thalathmia na sabiini (361)	July 29	
tano thalathmia na sabiini or kibunzi or kufunzi (365) ...	August 2	Last day of year.

Various references have been made in the above table to the Pleiades. Like farmers in other continents, the East African farmer does not rely solely upon a calendar for the purpose of arranging his farming programme for the year. The experience of many generations has taught him that certain natural phenomena, such as the sprouting or falling of leaves, recur with a large measure of regularity at certain intervals of time. Study of the heavens has also taught him that the heliacal rising and setting of certain prominent stars likewise recurs with the greatest regularity at certain intervals of time. On the strength of the knowledge thus acquired he has come to rely upon certain of these phenomena for the purpose of calculating the time for starting a number of his more important operations.

The exceptionally bright group of stars known as the Pleiades are specially noticeable at the time of their rising and setting. In East Africa the pastoral Masai take particular note of the six principal stars in the group, which "follow one after another like cattle" and make their appearance just before the rainy season sets in. (1) The Nandi have a special name for the group (*Keremerik*), "and it is by the appearance or non-appearance of these stars that the Nandi know whether they may expect a good or a bad harvest." (2) The Kikuyu begin to plant when they see the group in a certain position in the sky. (3)

The Kiswahili word for the Pleiades is *Kilimia*, which may perhaps be anglicised as meaning "the diggers". The Swahili have a proverb *kilimia kikizama kwa jua huzuka kwa mvua, kikizama kua mvua huzuka kwa jua* which may be translated: "If the Pleiades set in sunny weather they rise in rain, if they set in rain they rise in sunny weather."

As shown in the above table, the heliacal rising of the Pleiades is in early November, by which time bush clearing should have ended. *Vuli* (lesser rains) planting should begin in the decade following that in which the Pleiades rose. The group will be overhead in mid February and will set in early May, at which time *Masika* (long rains) planting should have ended. There are, however, a number of operations which must take place during the passage of Pleiades across the heavens from east to west and also during the six months in which the group is no longer visible. It is for the purpose of calculating the date of such operations as these that the solar calendar proves useful. For example, during each of the planting seasons there occurs a decade during which--for some reason which has never been satisfactorily explained to me—it is unlucky to sow or plant crops. By invoking the solar calendar the farmer can calculate the first of these unlucky decades as occurring four decades after that in which the Pleiades rose, and the second unlucky decade as occurring four decades after that in which the group was overhead. Again, bush clearing for the *Vuli* planting must begin some time before the rising of the Pleiades. The solar calendar fixes the time as being the seventh decade after *Nairuzi* or *siku ya mwaka*.

Unfortunately the solar calendar in use overlooks the fact that once in every four years the heliacal rising of the Pleiades takes place after the lapse of 366 instead of 365 days. As we know, the reason for this is that the stellar year, which is almost identical with the solar year, measures about 365¼ days. This error means that the calendar gets out of gear with the seasons at the rate of one day in every four years. Captain Guillain of the French Navy tells us that in 1846 and 1847 the festival of *Nairuzi* was celebrated in Zanzibar on August 29 and

in 1848 on August 28. (4) In 1951 it was celebrated on August 4 and in 1952 on August 3. Allowing for the fact that 1900 was not a leap year, the Swahili year has receded twenty-six days in 108 years. Thus, this calendar suffers, though not to the same extent, from a defect similar to that of the Muslim calendar. It should, however, be noted that, in contrast to the twenty-six days' regression of the solar calendar, the Muslim calendar has regressed through all the seasons of the year rather more than three times.

With regard to the ascertainment of the date of *Nairuzi*, Father Sacleux tells us that, "having no other means of determination except the lunar year, they make the *siku ya mwaka* recede ten days from the date on which it occurred in the preceding year." Baker (*loc. cit.*) suggests, on the other hand, that the Swahili make that date recede eleven days. The actual fact is that both statements are partially correct. The Hadimu of Zanzibar rely upon two things for the ascertainment of that date, namely, the Muslim calendar and the day of the Muslim week upon which the last Nairuzi took place. In some instances, but by no means always, it will be safe to apply the ten-day rule mentioned by Sacleux. As, however, in every cycle of thirty years the Muslims intercalate at certain times an extra day in the month of *Mfunguo Tatu*, the ten-day rule cannot always be relied upon and it is necessary to make a double check. As the solar year consists of 365 days, it follows that in each successive year *Nairuzi* must advance one day in the Muslim seven-day week. For this reason each year is known by the day of the week upon which *Nairuzi* falls. Thus, a year which begins on a Thursday is called *Mwaka ya alhamisi* and is followed by *mwaka ya ijumaa*. To take an example, in each of the years 1941, 1942 and 1943, *Nairuzi* fell on August 6. In 1941 that date was according to the Muslim calendar *Jumatano* (Wednesday), 12 Rajab, 1360 A.H. In 1942 it was *alhamisi* (Thursday), 22 Rajab, 1361 A.H. In other words, so far the ten-day rule applied. But looking forward into 1943, Rajab being a month of twenty-nine days, further application of the ten-day rule would take us to 3 Shabaan, 1362 A.H. which is once more a Thursday and corresponds to August 5, and not August 6. As *mwaka ya alhamisi* must be followed by *mwaka ya ijumaa*, the second rule has to be invoked and the Muslim calendar must be made to regress eleven days instead of ten to 4 Shabaan, 1362 A.H.

Calendars of 365 days date back to very ancient times. A very early example is that of ancient Egypt, which originally was made to commence on the date of the heliacal rising of Sirius or Sothis. A similar calendar, which is generally ascribed to Zoroaster, existed in ancient Persia. Though Darius (521-485 B.C.) used a still earlier calendar in inscriptions upon monuments, it is possible that it was he who made the Zoroastrian calendar the official Persian calendar. If it was not Darius who took this step, it was certainly one of his early successors. There is also little doubt that the calendar was in common use before it was accorded official recognition. Its structure is the same as that of ancient Egypt, whence it may have been derived. It consisted of twelve months each of thirty days with five additional days at the end of the year, which are called *Gathas*. The first day of the new year was called *Nau-ruz*. Anciently, that day coincided with the celebration of the gathering in the barley harvest, which used to begin at the midsummer solstice, June 21. During the period of the Achaemenid dynasty (546-323 B.C.), the date was advanced to the spring equinox, March 21, and thereafter both dates were celebrated in the ancient Persian Empire. (5)

This calendar remained the official calendar until Persia was conquered by the Arabs, who after the battle of Yarmuk (Hieromax) in 641 A.D. expelled the last Sassanid emperor and in the course of the next ten years overran practically the whole of the country. The conquerors were Muslims. Though they outwardly professed to tolerate Zoroastrianism, there was more than one persecution of the adherents of the older faith. Slowly but surely Islam supplanted Zoroastrianism in most parts of Persia, but even today there are still Zoroastrians in the land, most of whom are to be found in the province of Yezd. Many other adherents of that faith emigrated. The best known of these emigrants are the Parsees, who first landed in India at Din in Kathiawar in 706 A.D. Today the great majority of them are to be found in Bombay. The Parsees still retain the Zoroastrian calendar, but it differs in a number of respects from the Kadimi calendar, which is still in use amongst the Zoroastrian remnant in Persia.

The Arab conquerors of Persia introduced the Muslim calendar into the land, but the older calendar persisted. Obviously it was far better adapted to the practical requirements of the farmer and the sailor than the lunar calendar. In the time of Harun al-Rashid (786-809) Persian landholders demanded that the New Year should be postponed by about two months so as to bring it back into conformity with the agricultural year, but the proposal had to be dropped because of religious opposition. Nevertheless the agitation continued. During the caliphate of Mamun (813-833) the astronomer Muhammad ibn Musa al-Khwarizimi lived at the court. In his writings he recommended the re-introduction of the solar year. In the system advocated by him *Nau-ruz* coincided with the vernal equinox and the entry of the sun into the sign of Aries, namely, March 21.

Al-Khwarizimi's calendar eventually received official recognition. As it was a 365-day calendar, it suffered from the defect that it did not march with the astronomical year and in course of time got very much out of gear with the seasons. When this became apparent, a series of attempts were made to readjust matters by the compilation of fresh astronomical tables. Amongst these was one by Omar Khayyam, who is better known to the western world by reason of Fitzgerald's translation of his *Rubaiyat*. His revised edition of the astronomical tables was surprisingly accurate and led to the adoption in 1079 A.D. of a new era known as the Jalali era, beginning on March 15. But Omar's calendar lasted rather less than two centuries. In the time of the Mongol Hulagu Khan it was displaced as the result of a compilation by Nasr al-Din al-Turi (1200-1273) of a fresh set of astronomical tables known as the *Zij-i-Ilkhani*. (6) Thereafter various other attempts were made from time to time to adjust the calendar by the intercalation of days and even months so as to bring it into conformity with the astronomical year. The last of these reforms was made in 1745 by a Persian named Jamshid. (7).

Jamshid's calendar was, however, not adopted by the majority of the Parsees in India. Thus, the sixth day of the twelfth month of the Parsee calendar is the first day of the New Year according to the Kadimi calendar as reconstructed by Jamshid. The Parsees call that day the *Jamshid Nau-ruz* and make it a public holiday, but they do not regard it as the beginning of the new year. Furthermore, the Parsees call the first day of the new year *Pateti* (day of repentance). In 1952 *Pateti* fell on September 2. *Jamshid Nau-ruz* therefore fell on the same day as *Nairuzi* in Zanzibar, to wit, August 3.

Jamshid's rectification of the Zoroastrian calendar was based on scientific knowledge and, like previous adjustments, was an attempt to bring that calendar into closer conformity with the seasons in Persia, but it is interesting to note that what he in fact achieved was to make that calendar synchronize absolutely with that at present in use in Zanzibar. It is also significant that in each of those calendars the first day of the new year bears one and the same name.

There are many pieces of evidence pointing to the fact that at various times in the past there was a close connection between East Africa and Persia. Many Persian words have crept into the Kiswahili vocabulary. Most interesting of all these are perhaps certain words connected with local government, such as, *Diwani* and *Sheha*, two of the titles bestowed upon East African chiefs. *Serikali* (government) and *boma* (fort) are perhaps even more striking examples.

On the great tower, which he erected at Paikuli to commemorate his victory over his predecessor on the Persian throne, the Sassanid ruler Narsen (293-302 A.D.) recorded that amongst other rulers, who sent congratulatory embassies to him, was the Zand Afrik Shah, that is, a ruler of some part of the East African coast. At the close of the seventh century a rebellion on the part of the Zanj slaves shows that by that date there was a considerable slave trade between Mesopotamia and East Africa. During the ninth century further rebellions by Zanj slaves contributed very largely to the final downfall of the Abbasid empire. (8).

We learn a good deal about this commercial intercourse between Persia and East Africa from the Persian sea captain, Buzurg ibn Shahriyar of Ramhurmuz, who made his base at Siraf (the modern Tahiri) on the Eastern shore of the Persian Gulf. Buzurg compiled a book, which was called the *Kitab Ajaib al-Hind* (the Book of the Wonders of India) and which contains a number of narratives by sea captains of Siraf, Basrah and Oman, who made voyages as far south as Sofala and Madagascar in the first half of the tenth century. In particular he gives a graphic account of the kidnapping in 923 by one such captain of the "king" of Sofala and over two hundred of his subjects as slaves. In addition to slaves these vessels used to seek for ivory and ambergris. (8).

The earliest East African chronicles also suppply a good deal of information connecting Mesopotamia and Persia with the land of Zanj. The Pate Chronicle tells us that in 697 the East African coast was colonized by "Syrians", who were sent there by the fifth Ummayad Caliph, Abdulmalik bin Marwan. The same chronicle then tells us that after the overthrow of the Ummayad caliphs and the succession of the Abbasid caliphs, "the third of this dynasty was Harun al-Rashid, who reigned in the year 170 (787 A.D.). This Sultan heard that Abdulmalik had built in Africa, and he was pleased to call people and give them much wealth wherewith he sent them to build houses on the coast. The people he sent were Persians. The Kilwa Chronicle tells us that in about 975 A.D. there was yet another emigration from Shiraz in Persia. These emigrants are said to have settled at a number of places along the East African coast. Their leader, Hassan bin Ali, purchased Kilwa Kisiwani from the chief of the Almuli, that is, of the people of the *mul*, the Persian word for "the coast", which as *moli* was according to Burton "commonly used in the corrupt Arabic of Zanzibar and will be sought for in vain in the dictionaries." (J.R.G.S. xxix (1869) p. 30). (9).

It has to be noted that these two traditional migrations from Persia took place after the Arab conquest of that country and that the emigrants were clearly Muslims. At the same time it has to be remembered that they did not leave their homeland as explorers, but as colonists going out to settle in a land which had already been explored. Doubtless these settlers took unto themselves wives from amongst the daughters of those whom they found in the land, but the Persian element in the population endured a sufficient time to ensure that certain of their customs and beliefs survived long after the Asiatic blood of the original settlers had become strongly diluted by African blood. As will be seen, many of the ceremonies which take place at *Nairuzi*, are, like many other customs prevailing on the East African coast, most decidedly non-Islamic in character. Like the Persians themselves, many of the East African coast people were ready to embrace Islam, but for eminently practical reasons they clung to many of their old customs and institutions, including their calendar.

It seems evident that the solar calendar of East Africa was of Persian origin. One is tempted to say that it reached East Africa before the Arab conquest of Persia, but, as the Persian calendar survived that event, it is possible that both it and Islam were brought to East Africa at one and the same time by immigrants from Persia, who were already Muslims.

THE NAIRUZ FESTIVAL

As already said, many of the ceremonies which take place at or about the time of *Nairuz* are distinctly non-Islamic in character. Some of them are, or perhaps one should say were, of such a character that the more strict Muslim must indeed frown upon them.

In describing those ceremonies I shall be dealing mainly with those observed in Zanzibar, and more particularly with those observed at the village of Makunduchi at the southern end of that island. My reason for so doing is because I personally have had better opportunities of getting to learn about what happens on these occasions in Zanzibar and that such knowledge as I have of the ceremonies taking place on the mainland has been obtained entirely at second hand. I accordingly wish to make it clear that I am not seeking to generalize in regard to the prevalence of any of those ceremonies. I am fully conscious of the fact that elsewhere than in Zanzibar some of the ceremonies described by me may not take place, whereas others which I have not described may take place upon the mainland. Futhermore there may be considerable divergences from the general pattern of some of those ceremonies regarding which at the present time I know nothing. If any such errors or omissions exist, I trust that they will in due course be put on record by others.

One other point should also be made clear. I shall be mainly writing in the present tense, but it must be understood that many of the ceremonies which I am about to describe may in some instances be falling rapidly into desuetude and in some instances may have already disappeared.

In Zanzibar the persons, who play the most prominent part in the ceremonies at the close of the old and the beginning of the new year, are the *Wavyale*. The *Mvyale* acts for the community as mediator with the many spirits (*mizimu*), who inhabit the various caves, trees, cross roads, cliffs, sandbanks, etc., in and

around the island of Zanzibar. The good offices of the *Mvyale* must be sought by any cultivator, hunter or fisherman, if he wishes to avoid misfortune by incurring the displeasure of the *mizimu*. The office is usually hereditary and is often handed down from father to son, the latter qualifying for the post by the instruction and experience of his father. Though in many places the holder of the post is usually a man, there is nothing to debar a woman from holding it. At Makunduchi in 1935 there were two women officiating as *Wavyale*, named Vatima binti Madebe and Kazija binti Haji. These two ladies have since joined the great majority, but their places have been taken by four other women, to wit, Umazi binti Khamis (Mwana Kidete), Umazi binti Kungugu, Acha binti Haji Saadi and Wannu binti Regeza. All four officiated at the *Nairuzi* celebrations at Makunduchi in 1952, but the last named is not a hereditary *Mvyale*. She has been co-opted by the triumvirate as a sort of liaison officer between them and the *Sheha* (chief) of Makunduchi. (10).

No *Mvyale* claims to exercise any power or control over the *mizimu*. He or she is just an acceptable mediator whose petitions on behalf of the villagers are likely to obtain a favourable hearing. The *Wavyale* expect to receive some sort of remuneration for their services. Failure to render any one of them his or her proper dues may be visited by the *mizimu* bringing some misfortune on the delinquent until such time as he makes proper amends. (10).

The *mizimu* are not, as has sometimes been stated, spirits of the departed. They are essentially *genii* of the places which they inhabit. Some sort of covering appears to be required for their places of abode. For that reason many of them resort to natural recesses such as caves and holes in trees. Where there is no such covering, a miniature shelter is often built. Some *mizimu* have been known to take up their residence at cross roads. But they do not confine themselves exclusively to *terra firma*. Some of them are to be found on sandbanks and reefs, and even in deep sea water where their lair is never uncovered by the tide. These marine *mizimu* do not confine their attentions solely to such matters as fishing and sea voyages; they also interest themselves in such matters as the sowing and harvesting of crops. Similarly, land *mizimu* have been known to interest themselves in purely marine matters. At almost every step, which he takes in the course of following his ordinary vocation, a man must propitiate the appropriate *mzimu*. The agriculturalist must do so when he starts to clear the bush for planting, the hunter when he sets out on a hunting expedition, and the fisherman when he goes out fishing. Each of them must also make a thank-offering of the fruits of his labours at the proper time. Failure to do so will as often as not be severely visited upon the offender by the offended *mizimu*. Generally speaking, these spirits are benevolent, but they are extremely touchy, and, when offended, can be very malevolent. Therefore it is always as well to obtain the mediation of the *Mvyale* before embarking upon some important task, such as clearing the bush for cultivation or setting a new fish trap. It is even more important to obtain the *Mvyale's* intercession when misfortune shows the victim that, wittingly or unwittingly, he has given offence to some *mzimu*. (10).

The approach to the *mzimu* may be either by the *Mvyale*, or by the suppliant accompanied by the *Mvyale*, or by the suppliant alone. It would appear that in past times the applications were addressed to the *mzimu*, but of recent years it has become customary to address them to god, as the *mzimu* is no more than the *sababu* (reason) for seeking intercession. (10).

Side by side with the *mizimu* there exist a number of spirits, which are called by a number of different names and which take possession of certain people. Though they are not always malevolent and may sometimes take possession of a person for that person's good, the great majority of them are extremely malevolent and work nothing but harm. The commonest name for this class of spirits is *pepo*. The *Wavyale* make no claim to be able to mediate with this class of spirit, but they are able to warn and advise people as to the best means of avoiding falling into their clutches and of ridding themselves of their attentions.

The mediation of the *Wavyale* with the spirit world becomes specially important when the old year is drawing to its close. Just as in medieval Europe on Walpurgis Night, the eve of May Day, above all other nights, the power of witches was believed to be extended to its full extent, so also in the last days of the dying Swahili year malevolent spirits delight in walking abroad in search of victims. Moreover, their malice is not just confined to the last day of the old year. It begins to show itself about a week before the end of the year and to work up to a crescendo on *Kibunzi* or *Kifunzi*, the day preceding *Nairuzi*. (11). As Sir James Frazer has pointed out in *The Scape-goat* pp. 339–342, in other lands the five intercalary days at the end of the solar year used to be regarded as being extremely unlucky and that in ancient Egypt in particular the third of these supplementary days was especially unlucky. As Frazer says, it would appear that these days were—so to speak "ownerless" and therefore given over to lawlessness of every description.

As has been already shown, it is always known on what day of the week the new year will commence. At Makunduchi the *Wavyale* begin their preparations by giving a feast on the corresponding day of the previous week. This feast is given in two special huts—one large and one small—at the *Kae Kuu*, or principal village. Pebbles, which have been collected from every cape, cave or other haunt of *mizimu* throughout the island of Zanzibar, are said to be buried below the floor of the larger hut. Other objects collected from the same haunts are said to be buried below the floor of the other hut. During the feast the *Wavyale* remind their guests that *Nairuzi* is only seven days ahead and warn them against the danger of giving offence to the spirits of the unseen world. They particularly enjoin their guests to avoid going anywhere or doing anything which may lead to their falling into the hands of malevolent spirits. Thus, fishermen are reminded of the danger of going out fishing during the coming week. Women are warned not to go into the bush to collect firewood and are particularly enjoined not to let their children wander abroad after dark.

Many years ago the C.M.S. missionary J. L. Krapf was told how the fate of Lot's wife befell three fishermen of Mombasa who were so rash as to disregard this warning. These three men, Makame, Kiwemtu and Mkungombe, impiously went fishing on *Kibunzi*, the last day of the old year, and for this crime they were turned into stone. And if anybody doubts the truth of what Krapf's informant said, are there not to this day three rocks lying off the southern shore of the island of Mombasa and bearing the names of these three offenders? (12).

Though at this particular season of the year most of the spirits which take their walks abroad are in a decidedly malevolent mood, justice requires that mention should be made of one who exhibits a much more kindly disposition. During the last nights of the old year the outskirts of Makunduchi are patrolled

by one *Chenda-utupu* (he who walks naked), who drives away his more malevolent brethren whenever he sees them trying to enter the village. But, like his brethren, *Chenda-utupu* is highly sensitive. Probably because of his entire lack of wearing apparel, he prefers to do good by stealth. If anybody catches sight of him, they will suffer the fate of Peeping Tom or else some other equally grievous misfortune. In the circumstances therefore it is most unwise to leave one's house after dark during the last week of the old year. (13).

Of recent years there appears to have grown up a custom in Zanzibar which gives Islamic sanction to the events which take place on *Nairuzi* itself. On the last night of the old year the boys who attend a Koranic school go to their teacher's house, where after reading the Koran they spend the night. Every boy brings or sends in advance his share of the food required for the next day's ceremonial meal or else money to pay for it. The meal is prepared by the boys the previous night before going to bed. Next morning the teacher's wife completes it by the addition of coconut milk. The food itself consists as a rule of beans and gruel. Early the next morning the boys rise and, accompanied by their teacher, go down to the sea shore. On the way one of the boys reads or recites various *suras* (chapters) of the Koran. The selection of the *suras* appears to be left to the reader or reciter himself. They do not appear to have any particular reference to the day which is being celebrated. In fact the boys hardly appear to take the recital seriously. When the reciter stops, the rest of them say *Kombe chaza*, or, in other words "oyster shell", which would by interpretation appear to mean "his mouth is shut up like that of an oyster." After a time their repetititions of the *suras* become exhausted and they take to singing songs with topical allusions. Arrived at the sea shore, they all bathe. If one of their number tries to avoid bathing, he is either driven or else thrown into the water by his companions. After bathing, they all return to the teacher's house and partake of the previously prepared meal. After the meal they all disappear. According to our informant, "some go to take part in the dances which are held on such a day." I venture to suggest that for "some" in this context it is safe to read "all". (14).

The annual bathe in the sea has been one of the principal features of the *Nairuzi* celebrations from time immemorial. Just before or just after sunrise the people—and more particularly the women—can be seen making their way down to the seashore. According to an account of the byegone ceremonies in the town of Zanzibar, the bathers used to take down with them their goats, their sleeping mats and their clothing, which they first of all washed in the sea. Then, after bathing themselves, they put on clean clothes and crowned their heads with the green leaves of some creeping plant growing upon the beach, which they called *mwaka*. As Baker says in describing a similar ceremony, which used to take place at Pangani, the act was a ceremonial one of washing the body in order to wipe out the old year and all its attendant troubles. In this connection it is not without interest to note that on their New Year's Day the Parsees rise early, perform their prayers and ceremonial ablutions and then don fresh clothing. Whilst one must always remember that there is the possibility of entirely independent origins for two very similar customs, this one point, coupled with other points of resemblance, does appear to give additional confirmation to the theory that *Nairuzi* in East Africa had a Zoroastrian origin.

It would appear, however, that in the past something more took place besides this purely ceremonial bathe. Historians at various times have recorded not only the practice of exhanging gifts on this occasion, "but also the rough horse play which then took place in the city streets of Iraq and Egypt. During these saturnalia no respectably dressed person could venture into the streets without risking his dignity." Other evidence goes to show that there was a time in Zanzibar when a man might be exceedingly lucky if he got away with mere loss of dignity.

Once upon a time in the town of Zanzibar, after they had bathed, clothed and garlanded themselves the women used to parade the streets in large bands singing, or rather reciting, the following chant:

Wacheza mzoga—umeingia kwa mshindo mwaka huu (they play the dead-body —you have entered this year with a bang). (15). Though latterly the *mzoga* was only the subject of a *mchezo* or of a dance, there appears undoubtedly to have been a time when the *mzoga* was a living person, who was cast into the sea and drowned.

The C.M.S. missionary Krapf, who was often in Mombasa between 1844 and 1856, tells us that "in former times people were permitted to commit great crimes without being punished." (16). The Methodist missionary, Charles New, who was often in the same place between 1863 and 1875, says:

"The day was formerly one of great licence; every man did as he pleased. Old quarrels were settled; men were found dead on the following day, and no inquiry was made about the matter. The Indian residents were often treated very badly, thrown bodily into the sea, and otherwise ill used. This has been stopped by the interference of the British Government." (17).

Describing the festival in the town of Zanzibar in the *Zanzibar Gazette* in 1895, an anonymous contributor says:

"There was formerly no law on this day and before the advent of a strong Consular Staff in Zanzibar many a debtor got rid of his creditor's debts by murdering his creditor. Our British Indian subjects had to remain closely shut up in their houses, for if they were caught out of doors they ran a great chance of being murdered by some debtor. I have heard stories of Banyans being rushed down to the sea and drowned by slaves of some one to whom they had lent money. This was finally put a stop to some thirty years ago (sc. c. 1865) after strong representations from the British Government." (18).

It is quite possible that at the beginning of the last century from time to time some Banyan trader was either drowned at *Nairuzi* or else died as the result of having been involuntarily ducked in the sea on that occasion, but I think it can fairly safely be said that any such practice came to an end, in so far as Banyans were concerned, soon after Seyyid Said bin Sultan's first visit to Zanzibar in 1828. As there appears to be no reference to this practice in the correspondence passing between the British Consulate at Zanzibar and the Bombay Government, it would appear that, if any such practice had once existed, it had completely died out by the time the first British Consul was appointed to Zanzibar in 1841. Captain Guillain of the French Navy, who first visited Zanzibar in 1843, tells us that in his day "the people of both sexes, and particularly the women, adorned

with garlands of leaves, appear in bands in the town and run about the streets, giving themselves over to noisy manifestations" (19) from which one may perhaps infer that by that date the *mchezo wa mzoga* had taken the place of this human sacrifice.

Though it could have afforded no consolation to the victims, it is clear that the practice did not originate merely from a desire on the part of the local inhabitants to get rid of unpopular alien creditors. It was evidently a case of ceremonial human sacrifice for the appeasement of some *mzimu* of the sea, who expected to receive his tribute for what fishermen and others removed from his realms. He was best appeased by the present of a bride or else a slave. A similar ceremony certainly existed at one time amongst the Chagga on the slopes of Kilimanjaro. "These people irrigate their fields by skilfully constructed channels, through which they conduct the water of the mountain brooks and rivers to the thirsty land. They imagine that the spirits of their forefathers dwell in the rocky basins of these rushing streams, and that they would resent the withdrawal of water to irrigate the fields if compensation were not offered to them. The water rate consisted of a child, uncircumcised and of unblemished body, who was decked with ornaments and thrown into the water to drown." (20). The legend of Perseus and Andromeda is yet another example of human sacrifice to the sea god. Even to this day does not Father Neptune come aboard many a vessel to exact his toll when that vessel is crossing the line? When in the past it came to the selection of a suitable victim, an unpopular creditor belonging to an alien race, who had no powerful friends at hand to prevent or resent his victimization, was the obvious choice to make for the purposes of human sacrifice.

The foregoing was the custom in the town of Zanzibar, and also apparently in Mombasa and other places along the coast, but, as will be seen later, the Hadimu of Makunduchi discovered another method of dealing with the rapacity of the sea god, which did not necessitate the sacifice of a human life.

When in the town of Zanzibar the *mchezo wa mzoga* was finished, the people all returned to their homes and hung up their garlands outside their houses, where they remained until they fell to pieces. (21).

The next important event in Zanzibar and all other places is the New Year's feast. For once in a while the essentially feminine labours of the cuisine are divided between the two sexes. The women prepare the rice and the men prepare the *Kitoweo* (relish). (22). The meal is partaken of at midday and is dished out to all comers. (22). Then suddenly at a given signal all fires are extinguished with water. They are then relit by the most primitive method of firemaking known to mankind, to wit, by the use of firesticks. Krapf has described the procedure in his *Suahili-English Dictionary:*

> "*Ulindi* (the African tinder-box) is a piece of wood cut off from the *mlindi* tree, which the natives use to produce fire at home and especially upon journeys. *Ulindi wa kupeketa* or *kupekeja* or *kutolea moto* (sc. tinder to produce fire). The *Ulindi* is as thick as the little finger, and about 1½ feet in length (like an arrow without the head). It is turned rapidly between the palms of the hands over the *wimbombo* (a piece of wood from the tree *mwombombo*), the pith of which is ignited by the friction of the *ulindi* which is very hard. As the *ulindi* works upon the *wimbombo* by being turned between the hands, it is called the *mume* (male), whereas the *wimbombo* which gives the fire from its pith is called the *mke* (female). By this method fire is procured

in a few minutes. The ignited pith is then put into a little dry grass or a piece of old cloth and waved in the air to produce a flame. I have often seen the natives succeed in getting fire, when all my phosphorous matches have failed, especially in damp or wet weather." (23).

The customs of calling the friction stick the man and the tinderwood the woman is common amongst many tribes in East Africa. It exists amongst the Masai and the Nandi. In each of those tribes it would appear that the task of causing the ignition is left exclusively to the men, who hand the ignited wood over to the women for the purpose of lighting the fire itself. (24). Similarly, amongst the Kikuyu the use of the fire drill would appear to be confined to the men, who explain the firesticks by saying that "one is the man and the other the woman." (25). In Uganda both the Ganda and the Nyoro use, or formerly used, firesticks for ceremonial purposes and dubbed them man and woman. The Sebei always keep a pair of firesticks in the house for use in the case of an emergency and likewise call them male and female. (26). Amongst the Lango the two sticks are known as the husband and wife. On certain ceremonial occasions the woman does the preliminary twirl and then leaves the actual fire-drilling to the man. (27).

The continued use of the fire drill for the relighting of the fire after its ceremonial extinguishment shows that the custom must be a very ancient one. A similar custom existed from the earliest days of Roman history, when "the sacred fire in the temple of Vesta was extinguished and kindled anew on the first day of March, which used to be the beginning of the Roman year; the task of lighting it was entrusted to the Vestal Virgins, and they performed it by drilling a hole in a board of lucky wood till the flame was produced by friction." (28). Countless other examples could be given from other parts of the world. It has been suggested by some that the explanation of this and similar ceremonies is that it is "a magical ceremony intended, on the principle of imitative magic, to ensure a needful supply of sunshine for men, animals and plants by kindling fires which mimic on earth the great source of light and heat in the sky." On the other hand, it has also been maintained that these "ceremonial fires have no special reference to the sun but are simply purificatory in intention, being designed to burn up and destroy all harmful influences, whether these are conceived in a personal form as witches, demons, and monsters, or in an impersonal form as a sort of pervading taint or corruption of the air." The first of these two theories has been called the solar theory and the latter the purificatory theory. The solar theory would undoubtedly go to support the theory as to the Zoroastrian origin of the *Nairuzi* celebrations, but it has to be borne in mind that many of the other celebrations taking place on that day would appear to be purificatory in character (29).

After the fire has been rekindled, the ashes of the old fire are taken out of the house and deposited at the nearest cross-roads. The floury ash is sprinkled against the back of the house. Again, this is a custom resembling that observed in other parts of East Africa. Amongst the Lango of the Uganda Protectorate the ceremony known as *ryamo two*, or the driving away of disease, used formerly to take place every June at the time when the millet was ripening; nowadays it is only performed on the outbreak of some epidemic, such as smallpox. Men exorcize the disease from each house by dint of much shouting and the poking into nooks and crannies of torches, which have been made from the thatch of

the roof and lit at the kitchen fire. The result is to drive out the disease to some river or swamp whence it cannot return. Ashes from the fireplace are then put in potsherds and calabashes and conveyed, whenever it is conveniently near to a river's bank but, "if there is no convenient river, the ceremony may conclude at the cross-roads, as the disease will not know which road to take in order to return to the village." (30). Amongst the Ganda suicide was held in great horror. Great precautions were taken to remove the body and to destroy the ghost so as to prevent the latter from causing further trouble. The body was taken to some distant place, where cross-roads met, and was then burnt, the idea being, if possible, to destroy the ghost. (31).

Both Bishop Steere and A. C. Madan were informed that cross-roads in Zanzibar were the abode of a devil (*pepo*) named *Kinyamkela*, who was very much given to raising dust storms. Though the modern generation still calls a whirlwind *Kinyamkela*, it does not appear to associate him any longer with cross-roads. Possibly the constant deposit of the ashes of the dead year has driven him from his old haunts and, like the whirlwind itself, he has become a wanderer on the face of the earth. To use Addison's words, *Kinyamkela* now "rides on the whirlwind and directs the storm." But enough has been written to show how extremely desirable it is in a spirit-ridden world to remove the ashes of the year, which had just died, to some place whence it is difficult for them to return so as to continue to exercise their baneful influence during the new year which has just been born. If by any mischance they should escape from the cross-roads, it was as well to make assurance doubly sure by sprinkling the floury portions of the ash on the back of one's house so as to prevent their re-entry.

In 1935 at Makunduchi the removal of the ashes to the cross-roads was followed by a women's dance at *Kaekuu* (the principal village). The women living north of that village drew up in one line and, facing them, those women living to the south drew up in another line. The two lines kept advancing towards one another and then retreating, singing at the same time: "I met this year of Thursday—I do not know about the year of Friday." As already mentioned, each year is called after the day of the week on which *Nairuzi* falls: in 1935 it fell on a Thursday. Possibly therefore the intention of this chant is to instil into the minds of the singers and their audience the name of the new year. The dance also served the very useful purpose of a curtain raiser to the next item on the programme (32).

Whilst this dance was being performed, the *Wavyale* were busily engaged in supervising the erection of a *banda* made of *makuti* (coconut leaves) on the eastern outskirts of the village close to the uncultivated bush country. In 1935, as soon as this *banda* was completed, the two *Wavyale*, Vatima binti Madeja and Kazija binti Haji, stepped inside. Somebody then took the firesticks and, after *ulindi* had ignited *winbombo*, the fire was applied to the *banda*, which was very soon ablaze. The two *Wavyale* at once made their escape and ran off into the bush. Thereafter the rest of the women pelted the *banda* with stones. The combined effect of the firing of the hut and the stoning was to destroy the diseases and devils (*pepo*) belonging to the old year. If any of these managed to escape from the blazing, they followed the *Wavyale* into the bush to the east of Makunduchi, where there are no human inhabitations and where they presumably got lost. (32).

It is satisfactory to know that the two *Wavyale* emerged unscathed from the *banda* in 1935. It is equally satisfactory to know that at the present time two effigies of straw have taken their place in this act. But there is every reason to believe that in earlier times two human beings were placed in the *banda* and that they were not allowed to escape. Though I am not aware of any other African precedent, it is interesting to compare the custom at Makunduchi with that which used to take place in ancient Athens at the festival of Thargelia, which was held in honour of Apollo at the end of May in each year. It was then the custom to select two victims, one from amongst the men and the other from amongst the women, who were led outside the city walls where in classical times a pretence was made of stoning them to death. In Thrace the city of Abdera was publicly purified once a year by stoning one of the citizens to death as a scapegoat or vicarious sacrifice for the lives of others. If, as would appear to be extremely probable, human scapegoats were sacrificed in days gone by at Makunduchi, it is unlikely that the *Wavyale* were selected as the victims; their services as mediators between the public and the *mizimu* were too valuable to allow of this. The victims were in all probability, as in ancient Greece, either criminals or unwanted or unpopular members of society. (33).

After the burning of the *banda* and the stoning of its inmates, a special dish called *Kande* was brought to the larger of the two *mizimu* huts at Kaekuu, Makunduchi. It is made of white bread (*pufudo* in Kihadimu) and contains the following ingredients—dates, cardamon, raisins, pumpkin and pomegranates. Anybody who so desires may partake of the dish. (34). It is said that any person, who partakes thereof, will be blessed with a good harvest, if he plants his *konde* (plot) with any of the kinds of grain of which the *kande* is composed. As Sir James Frazer says in *The Spirits of the Corn and of the Wild*, ii. 48, the partaking of a meal of this character appears in reality to be the sacramental eating of food as representations of the corn spirits. The Ganda used to have a similar custom at the time of the bean harvest. In Bunyoro, before the harvest could be reaped, the Nyoro used to cook some millet, offer a portion of it to Kaikara, the goddess of the harvest, and then consume the remainder ceremonially at the temple door. (34A).

According to Ingrams—*Zanzibar* p. 488—this meal was followed by a dance performed by the old men round the grave of a byegone patriarch, whose name has been forgotten notwithstanding the fact that he possessed the ability to walk upon the waves at will. At the present time this dance no longer appears as one of the items on the programme. Possibly the corybants have all joined the great majority without having passed on the *mapokeo* (traditions) of the dance to the next generation. Whatever the reason, this dance has been replaced by one performed by the other sex.

The *nyange* is performed at other times besides *Nairuzi*, being considered an excellent remedy for exorcising devils from the human body. Its origin is said to have been as follows. A long time ago three women went down to the seashore to catch whitebait. Whilst they were there, they suddenly beheld out at sea a *pepo* (devil) approaching in a canoe with a trident in his hand. He called out to the women in some gibberish which they could not understand. They incontinently fled, but became afflicted with madness. Nobody knew how to deal with their affliction until the remedy was revealed to somebody one night in a dream. The *nyange* dance was the result.

The story would appear to contain an admixture of both the real and the supernatural. The man with the trident, who spoke some unintelligible language, would appear to have been a byegone slave raider of some non-Bantu nationality, but his sudden swoop down on the three women from the sea stamped him is the minds of the people of Makunduchi as a sea god, come to demand his toll and venting his wrath on the women when he failed to obtain it.

On *Nairuzi* the dance takes place round the larger *mizimu* hut at *Kaekuu*, Makunduchi. As already said, the dancers are all women, but the orchestra is male. Every now and then the dancers advance and then suddenly fall back. Ingrams has described this movement as "being extraordinarily reminiscent of waves on a sandy shore, as they dash up, break into foam and catch the sunlight, to fall back again into the unbroken sea." (35). Some of the dancers carry tridents affixed to long handles; others carry swords or knives with ivory handles. Others carry models of *ngalawa* (outrigger canoes) or else model paddles. Both canoes and paddles are painted red with wavy white lines on them, which during the course of the dance tend to give the impression that they are in fact being borne on the ocean wave. (35).

This is the only local dance in which tridents are used. It at once calls to mind the fact that this implement is familiarly associated with the Greek sea god Poseidon. Ingrams has gone so far as to say that "there can be little doubt that it is a relic of the worship of that deity, brought by the Greeks of old. These jealous gods were of the same nature as the spirits of the Africans, and one can easily imagine that to a simple fisher folk the worship of Poseidon would make a strong appeal." (35).

I myself, however, find it difficult to believe that the members of the crews of the few Greek vessels, which may upon occasion have anchored off, or have been wrecked upon, the inhospitable south-western shore of the island of Zanzibar, succeeded in instilling a Hellenistic cult into the minds of the local inhabitants. I am the more fortified in this view by the fact that there is other evidence which suggests that, if the *nyange* dance did not have an entirely independent, local origin, it was introduced from the east and not from ancient Hellas.

The custom of periodically constructing model boats or rafts to convey demons out to sea is, or at one time was, common in many parts of the Malay Peninsula and the East Indian Archipelago. In *The Scapegoat* pp. 198 *seq.* Sir James Frazer describes such customs as prevailing in Perak and on the islands of Leti, Moa and Lakor. He also refers to the annual ceremony performed by the Dusuns in Borneo, which bears a number of striking resemblances to the *nyange* dance at Makunduchi.

> "The task of routing out the demons and banishing them devolves chiefly on women, who indeed play the principal part in all religious ceremonies of the Dusuns, while the humble duty of beating drums and banging gongs is discharged by members of the inferior sex . . . . At every house the women dance and sing, clashing castanets or cymbals of brass and jingling bunches of little brass bells in both hands. When the performance has been completed at every house in the village, the procession defiles down to the river and all the evil spirits, which the performers have chased from the houses, follow them to the water. There a raft has been made

ready and moored to the bank. It contains offerings of food, cloth, cooking pots and swords; and the deck is crowded with figures of men, women, animals and birds, all made out of the leaves of the sago palm. The evil spirits now embark upon the raft, and when they are all aboard, it is pushed off and allowed to float down with the current carrying the demons with it."

Every year at the beginning of the dry season the Nicobar islanders chase the devils out of their huts and drive them on board a little ship, which is then launched and suffered to sail away with the wind. In this respect the *nyange* at Makunduchi differs from these other ceremonies inasmuch as the canoes and paddles are not set afloat and sent out to sea. There would appear to be two good reasons for this divergence from what appears to be the general rule. Firstly, *Kaekuu* at Makunduchi is a good two miles from the sea shore. Secondly, at low tide the coral ledge dries off for rather more than half a mile.

In connection with the tridents which the dancers at Makunduchi carry, it should be pointed out that this implement is not necessarily the weapon of the sea god. As Dr. Charles Seltman tells us, "the trident which Poseidon regularly carried was a weapon of dual origin, for it is likely that the three pronged head was at first a thunder-weapon, and an earthly form of the bolt of Zeus. Fitted onto a shaft, it became a thing with which the earth-shaker smote the earth in order to cause earthquakes, and on the Acropolis at Athens may be seen to this day in the bare rocks beneath the north porch floor of the Erectheum three marks, where they say the trident smote the rock and a spring welled up close by. Yet when Poseidon became lord of the sea his trident seemed appropriate, because of its resemblance to a fish spear such as men use today in the Mediterranean. (36). The trident has in fact been associated with other deities, who were certainly not of the seafaring kind. The Hittite sculptures at Boghaz-Keui in north-west Cappadocia depict a bearded god grasping a trident and a similar figure is to be found on another Hittite monument at Malatia on the banks of the Euphrates. Again, the temples of Airi on the western slopes of the Himalayan Mountains depict that god with a trident in his hand. (36).

Turning to East Africa, multiple-headed spears, intended either for magico-religious or for more practical purposes, are by no means uncommon. In Bunyoro-Kitara the regalia of the Nyina Mukema (Queen Mother) includes a four-headed spear. Amongst the exhibits in the Uganda Museum at Kampala are some magico-religious spears, which were collected many years ago from the shrines of Ganda *balubale* (deities) and which have clusters of five small pointed heads springing from the neck of the socket. (37). In the chapter dealing with agriculture in his *Kiziba-Land und Leute* Rehse depicts a *zauberspeer* (magical spear) with an incipience of three heads. On Lake Bunyonyi in south-west Uganda the Kiga use a three-pronged wooden spear for catching otters. With the exception of the pre-eminently practical implement last-mentioned all these multiple-headed spears would appear to be symbols of the might of the possessor.

In the circumstances the theory of a Greek origin for the *nyange* dance would appear to be untenable. If the dance did not have a purely spontaneous local origin, the evidence suggests that it was introduced from Asia and not from Europe. Its purpose clearly is the expulsion of evil spirits and their committal to the deep sea.

The *nyange* dance is followed by another known as *shandwa*. In this instance the dancers draw up in two lines facing each other, armed at the present time with sticks. They advance against each other again and again with a dancing step, thrusting at their adversaries with their weapons, but always taking care to miss. Once upon a time, as one might expect, the dancers were men. This was so as recently as 1935. In a description of the dance in that year it was explained that it was generally believed that during the rest of the year a person was endowed with increased strength and ability to do whatever he did on *Nairuzi*. Therefore, if he indulged in mimic warfare on that day, he would be endowed with a double portion of the spirit of courage. Of recent years, however, whilst the orchestra has remained male, the corybants have been drawn from the other sex. I have had no explanation given for this change except that corybantism is a woman's task, but my own shrewd suspicion is that, as only too often in the past this mimic warfare developed into real fights, which frequently had fatal endings, it has been decided that in the interests of peace, order and good government this particular dance should be entrusted to the weaker sex. In the past no question used to be asked as to what happened at Makunduchi on *Nairuzi*, but today the representatives of law and order are more inquisitive and might put a ban on the whole of the celebrations, if such fatalities came to their notice.

Sir James Frazer suggests (*The Scapegoat* p. 184) that the original intention of such dances as the *shandwa* "was to ensure prosperity in some form for the people throughout the following year, whether by obtaining possession of a material object in which the luck of the year was embodied, or by defeating or driving away a band of men who personated the power of evil." He describes one such fight amongst the Tengerese in Eastern Java. It is also interesting to note that the Portuguese historian, Antonio Bocarro, describes such an annual sham fight as taking place in the seventeenth century amongst the Makalanga, who in his day dwelt in what is now Rhodesia in the vicinity of Zimbabwe. He tells us that "the day of the new moon in the month of May is their great festival, which they call *chuauo*", and that on that day all the people "*pemberam*, that is to say, skirmish with assegais in their hands, attacking and threatening one another as if they were fighting in actual warfare." (39).

The set programme would appear to end with the *shandwa* dance. After that dancing continues till almost daybreak, but all subsequent dances are "by request" and include each and every of the many dances in vogue in the island of Zanzibar. At this stage the male sex would appear to come into their own again and to take a more prominent part in the dancing.

Writing of the customs of *Nairuzi*, which formerly existed at Pangani, E. C. Baker states that "according to the elders the custom is observed by the Washenzi, i.e. aborigines who are now Muslims; the Arabs do not participate, though I seem to remember seeing some of the younger African-born Arabs joining the Swahilis in the annual bathe at Shangani." (40). Similar information has been given to me at Zanzibar. Doubtless strictly orthodox Muslims frown upon the non-Muslim ceremonies which I have described. Doubtless also in the eyes of patrician Arab families participation in such ceremonies is one of those things which just "are not done." Nevertheless, some of the younger generation of

Arabs have sufficient *joie de vivre* to share in the amusements of their humbler neighbours. This is true not only of today but also of the days gone by, as is evidenced by the story of Seyyida Salme, which makes a fitting tail piece to this article.

Seyyida Salme was the daughter of Seyyid said bin Sultan, ruler of Zanzibar and Oman. In 1866 she had formed a friendship with a German merchant and the discovery thereof, as she well knew, was very likely to cost her her life. She had made one unsuccessful attempt to leave the island of Zanzibar in a German ship, but that had been prevented. She then appealed for help to Mrs. Seward the wife of the British Consul. With the assistance of Dr. Kirk, the Agency Surgeon, and Captain Pasley of H.M.S. *Highflyer* it was arranged to make another attempt to smuggle her out of the island. Advantage was taken of *Nairuzi* to put the plan into effect. Before daybreak on that day Seyyida Salme proceeded down to the beach ostensibly to take part in the annual ceremony of bathing in the sea. Though she was a member of the *Aulad-el-Imam* (royal family), her movements in the circumstances aroused neither surprise nor suspicion. Once arrived at the beach, she quickly boarded a cutter from the *Highflyer*. Once she was aboard that vessel, anchor was quickly weighed and the *Highflyer* steamed straight for Aden. Seyyida Salme lived until 1924. As Emily Ruete the wife of a Hamburg merchant, she had a somewhat remarkable career, but that, as Kipling would have said, is another story.* (41).

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NOTES

(1) Hollis—*The Masai*, p. 273.
(2) Hollis—*The Nandi*, p. 200.
(3) Hobley—J.R.A.I. xii. 442.
(4) Guillain—ii. 107.
(5) Levy, pp. 65, 66.
(6) Elgood, pp. 265-267.
(7) Jethabhai, pp. 27, 28.
(8) Hourani, pp. 38, 78-80.
(9) Krumm, p. 113.
(10) Pakenham, pp. 6, 7.

(11) Makunduchi Report. Writing in 1909 in his *Grammaire des Dialectes Swahilis* p. xviii, Father Secleux tells us that on the *Siku ya Mwaka* the local inhabitants of Mombasa went in procession to a grave situated on the cliff on the island which faces Kisauni (Frere Town). Arrived there, they burnt incense, sang chants, and performed a dance called *gungu*, in which according to Krapf the performers dance in couples. The tomb is that of Sheha bin Misham (? Sheha wa Mvita), who according to the Mombasa Chronicle was the last Shirazian ruler of Mombasa. Both he and all his grown up sons were killed in 1592 in battle near Kilifi by the Wasegeju, who thereafter occupied Mombasa and shortly afterwards handed it over to the Sultan of Malindi.

(12) KRAPF, p. 119.

(13) Makunduchi Report.

(14) MUHAMMAD ABDURAHMAN, T.N.R. viii. 68, 69. Writing in 1913 in his *Das Deutsch-Ostafrikanische Kustenland* i. 299, (published in 1915), Dr. E. Werth informs us that at Nairuzi "the children go about singing with blackened wooden boards inscribed with chalk". He supplies us with further details.

(15) *Zanzibar Gazette*.

(16) KRAPF, p. 388.

(17) NEW, p. 65.

(18) *Zanzibar Gazette*.

(19) GUILLAIN, ii. 107.

(20) FRAZER—*Adonis, Attis and Osiris*, ii. 38.

(21) *Zanzibar Gazette*.

(22) INGRAMS, p. 281; a similar custom is described by Baumann, pp. 55-56 as being practised on the Mrima (East Africa mainland) in 1891.

(23) KRAPF, p. 402.

(24) HOLLIS—*The Masai*, p. 342; *The Nandi*, p. 85.

(25) ROUTLEDGE, pp. 74-76.

(26) ROSCOE—*The Bakitara*, pp. 47, 48; *The Bageshu*, p. 58; information quoted by Frazer—*The Magic Art*, ii. 210.

(27) DRIBERG, p. 80; Hayley, pp. 85, 88, 92, 94, 95, 101.

(28) FRAZER—*Balder the Beautiful*, i. 138.

(29) FRAZER, *ibid.* p. 329.

(30) HAYLEY, p. 148.

(31) ROSCOE—*The Baganda*, pp. 20, 289.

(32) Makunduchi Report.

(33) FRAZER—*The Scapegoat*, pp. 253, 254.

(34) INGRAMS, p. 281.

(34A) ROSCOE—*The Bakitara*, p. 24.

(35) INGRAMS, pp. 484, 485.

(36) SELTMAN, p. 148.

(37) TROWELL, pp. 240, 241.

(38) FRAZER—*Adonis, Attis and Osiris*, i. 134, 135, 169, 170.

(39) BOCARRO, pp. 531, 542.

(40) T.N.R., xxxiii. 34.

(41) COUPLAND, pp. 45-48.

(42) Additional Note on *Nairuzi*.

When compiling trade returns for inclusion in his Zanzibar Report for the year ending 31st May, 1864, the then British Consul, Lieutenant-Colonel R. L. Playfair, explained that "I have been obliged to follow the maritime era of Kudmee-Nowroz (Kadimi-Nauroz) according to which the books of the customs house are made up; the years under review are therefore from the 1st of August, 1861 to the 31st July, 1862 and between the corresponding dates in 1862 and 1863."

Between 1861 and 1863 the customs of Zanzibar were farmed out to a Hindu merchant, named Jairam Sewji, and one might have expected him, in accordance with Hindu custom, to balance his books at Divali, which in 1862 occurred on September 22. In the years 1861–1863 the Kadimi Nauroz occurred on August 25. The explanation would appear to be that in different parts of India Hindus calculate years according to different eras, which commence at remote dates in the past. One such era is the Nauroz era, which is based on the tropical solar months. The name of those twelve months are the Arabic ones for the year and the tropical signs of the Zodiac, beginning with Aries (Hamal). (J. G. Jethabhai—*100 Years' Indian Calendar* pp. 5, 6, 18-20).

The present Christian year 1954 corresponds to 1876 Nauroz, which suggests that this particular Nauroz era came into being in 78 A.D. but its origin and its originator are not known and the date of its introduction into Zanzibar may have been much more recent. As Playfair says, it is a maritime calendar and therefore was obviously convenient for dating transactions relating to ships proceeding to and from Arabia and the Persian Gulf.

The practice of farming the customs to Indian merchants does not appear to have begun until after Seyyid Said bin Sultan's first visit to Zanzibar in 1828, but it is very probable that the farmers fell in with a pre-existing custom of dating transactions according to the Nauroz era. Merchants of Cutch, whence the early farmers of the customs hailed, would be familiar with that era by reason of their commercial intercourse with the countries bordering the Persian Gulf.

THE MIRACULOUS BIRTH OF HAMBAGEU, HERO-GOD OF THE SONJO

A Tanganyikan Theogony

By Dr. E. Simenauer

In the past psychological studies of East African tribes have not yielded spectacular results which are comparable to those of primitive cultures elsewhere. It is difficult to understand the reason for this peculiar hiatus in our knowledge for there was no lack of enquiry among which the investigations of G. C. Jung (1) are outstanding. But the results of his thorough interrogations of the tribes round Mt. Elgon have proved curiously sterile as far as original psychological concepts are concerned, though in Jung's hand they have been put to good account within the framework of the magical thinking of primitive man, and furnished ample explanatory evidence of the concept of "representations collectives" as expounded by Lévy-Bruhl.

In view of this it is suggested that a natural reticence and resistance on the side of the East Africans to divulge their innermost thoughts and tribal secrets is here at work, which are difficult to overcome, an attitude of suspicion sometimes leading even to conscious mystification of the field-worker. There are many instances of this kind on record, and among the most impressive is the one of Merker (2) who recounts that he succeeded in gaining the confidence of the Masai only after five years of concentrated efforts and patient exploration.

One of the most striking results of any research into the psychology of the African has been the discovery of a basic similarity of his ways of thinking and feeling to those of civilized peoples, modified only by the different premiss of his reasoning. According to whether the starting point is the principle of causality or the explanation of nature and events by reason of magical thinking, by the arbitrary action of chance, the ways of the ensuing reasoning is determined which in itself is essentially the same in both attitudes.

In the absence of written records the verbal traditions of African tribes, their folklore and their myths when scrutinized with the methods of modern depth-psychology reveal essentially the same patterns of thoughts and emotions which manifest themselves in different peoples in every corner of the globe, and throughout the ages, and though the number of patterns and attitudes is amazingly limited and though their contents may sometimes appear almost tedious by virtue of their repetitive character, they hold our interest by the protean multitude of forms and images, by the imaginative powers of their individual manifestations, as we may say, by their poetical and artistic presentation.

However, in the search for valuable and significant psychological expressions we do not usually turn to the East African native, we would rather spontaneously and rightly have recourse, in the first instance, to the ancient cultures of the Mediterranean basin, to the great traditions of the peoples of the Andes, the old Chinese and Indian civilizations, and even to the hypothetical Atlantis empire. But very recently there appeared an account of Simeon Ndula recorded

by Gabriel M. S. Mavalla of the Loliondo District in Tanganyika, edited by H. A. Fosbrooke (3), which should bring about a change of attitude; for the mythical records of the Sonjo as revealed for the first time by Simeon Ndula provide an outstanding feature which is nothing less than an original contribution to our knowledge of the basic psychological traits of man.

The relevant passage occurs in the beginning of the account: "Once upon a time, in the small country of Sonjo, situated in the interior part of North-Western Masailand in Tanganyika, there lived a man named Hambageu. This man is said to have come to the world automatically, and not through the natural way, i.e. birth. That is to say, he had neither mother nor father." (4). In order to appraise the significance of this statement one has to ask for the motives which throughout the ages have stirred the imagination and invention of the creators of myths, among all peoples of the earth (5). At once a significant difference strikes our attention. Whereas in almost all known instances a basic trend is the exaltation and elevation of the hero above all common standards among mortals no attempt at such enhancement has been made in the case of Hambageu. True, simple logical reasoning excluded such an approach from the side of the creator of the myth for if Hambageu was nobody's son it was impossible to endow him with all-powerful and mighty ancestors. Nevertheless it is noteworthy that this is the only instance in the vast store of folklore traditions that a hero has been introduced as an insignificant man of most modest means. Such was his low station that after his uncanny appearance among the Sonjo he was found "in a state of poverty dwelling in the millet farms chasing birds." It was only after a number of years that he succeeded in making his own hut. A hardly glorious beginning, a rather ignominious existence with no outstanding features, no achievements or extraordinary proneness to action, one is tempted to say, a sort of shenzi-hero. Wherein, then, is the psychological significance of the account to be found? Here one must refer to two patterns of notions concerning the birth of the hero. The one type of myths concerns those traditions where the hero owes his birth solely and exclusively to his goddess-mother, that is to say without having been begotten by a father, the most ancient written record of which is probably the miraculous birth of the Babylonian hero Sargon from his virgin priestess-mother (6). This motive has been recognized as the most consequential refusal of the rôle of the father in the conception of the child, the most radical expression of filial hostility towards the Father, in the psychological make-up of man. This trend is, of course, to be found in a great number of other traditions which concern themselves with the immaculate conception, in a variety of cultures. They can in their entireness be traced back to all-human traits and merely appear conspicuously and find literary expression in the imagination of the myth-creators, the seers, and the poets. Their collective counterpart is recognizable in the cultural epochs of matriarchy with which these notions would seem to be inseparably connected (7).

To the opposite type of tradition belong those myths the principal feature of which is the birth from a male God without any participation of the female. An outstanding example is the birth of Pallas Athene from the head of Zeus. I have elsewhere pointed out (8) that this idea is the expression of the most consequential denial of the rôle of the mother, and that it could have been conceived only after patriarchy was substituted for matriarchy, in the development of mankind.

We are now in a better position to attempt the psychological integration of the unique notions which the mythical account of the birth of the hero Hambageu reveals. In this we cannot rely on analogies; simply to assume a combination of the factors described above leads nowhere, and it would be impossible to find any correspondence in this account to the male-female antagonism which is a basic feature of the psychological constitution of man, as mirrored in his social institutions. It can be argued that the birth of Hambageu by his own accord without the causative agencies of male and female reproductive organs, is the powerful expression of that basic human trait which Adler (9) termed the "male protest" or the "urge to power", and his teachings would thus find a most curious confirmation on the African scene, the high plateau of North-Western Tanganyika. But to adopt this view we should need supporting features which are absent in the account on Hambageu. Throughout the story he is represented as a most inconspicuous bush-dweller who can be induced to exhibit his magical powers only reluctantly, i.e. when annoyed or seriously threatened by his enemies, the people among whom he originally settled down to his modest if uncanny mode of life. No, he is no image of the revolutionary mind, nor of the power hungry, no exponent of male protest, and of rebellious defiance. On the contrary, he exhibits decidedly passive character traits, and avowed lack of co-operative spirit towards his fellow men, and he seems to be interested only in his own person, impervious even to the welfare of most of his children, as we learn from the story of his life. Now, all these characteristics are not separate manifestations of a divergent nature but they constitute part of a definite set of the narcissistic constitution, and we may well ask whether it is not this make-up of his personality which is the foundation of Hambageu's being and above all of the impact he made on his fellow men.

This influence is difficult to understand from the manifest account as it has come down to us by Simeon Ndula. African folklore abounds in striking deeds of miracle workers, medicine-men and sorcerers compared with which the magical acts of Hambageu are not at all outstanding and most of them even but poor tricks, yet his achievements earned him the elevation to the status of a God, the creator of the earth, among the Samunge and the Sonjo, and through these he held his peoples in a curious bondage—curious because this kinship is of a uniform emotional kind in which that ambiguity inherent in the relationship of African tribes to the medicine man in their midst is absent. When Hambageu left for Belwa, near Magadi Soda Lake, the Samunge "were busy seeking for their God", they sent one deputation after another to him to entice him to return and offered to amend their ways if they had dissatisfied him and although they gave him many signs of the endearment in which he was held by them he flatly refused to return. This decision was neither the first nor the last manifestation of his complete disregard of his subjects and his narcissistic preoccupation with his own person, and yet the transference of their loyalty was a complete one. The Hambageu myth has been bearing sway even on the Tinaga to this day, whom he routed completely when attacked by them. This can be inferred from the fact that the mother of Simeon Ndula is said to be a Tinaga (10) for it is likely that it was through her that he became acquainted with the tradition.

The most striking features of Hambageu's narcissism emerge from his relationship to the family he reared. The account before us reads rather laconically: "One day he (Hambageu) called a meeting and stated that the number of his

children was beyond his capacity and that he intended to curse them and change them into stone, excepting two of the sons. The Samunge resisted strongly yet he insisted on implementing his plan and did so and the children were turned into stone." (11). That this grotesquely exaggerated selfishness and complete unconcern with the welfare of his own children is brought about by his narcissistic character is amply demonstrated by his wish to perpetuate his own person in the two sons who, we may assume, were most alike himself, and this tendency is put into proper relief by his consequent act of expelling, in addition, the one of the two remaining sons from his homestead, clinging finally to Aka in whom he might have seen his *alter ego* and in whom he fostered his narcissistic love exclusively. "This Aka was loved tenderly by his father and both passed a very jolly life" as we read on. For Narcissus is able to love only his like. By his nature unable to fix his libido on any other object his mode of life is bound to be an unsocial one as we have seen in his relation to the Tinaga from whose community life he kept aloof ignoring their call for help in their communal work, living the life of a recluse, selfish, introvert; unco-operative, unconformist, and consequently unpopular, suspected and hated. Even to the Samunge who have chosen him their God and worshipped him he turned a deaf ear to their beseeching him to listen to their advice, and void of any and every tie of affection and loyalty he finally deserted them.

If we try to give coherence to the account and to the personality of Hambageu we have to turn to the manifestations of narcissism. It is these which lend colour to the shadowy picture of his life. No other approach is able to give a consistency to the various divergent elements of his behaviour and attitudes, and to bestow a wholeness to an otherwise contradictory character. The one seeming exception to the rule whereby Hambageu exhibits an unnarcissistic, i.e. a healthy object-fixed love, namely his deep affection for his son Aka stands in the context of depth-psychology rather revealed as a confirmation. This is love to his own mirror image, to the projection of his inner self, his beloved Ego, traces of which are to be observed a hundredfold in certain traits of parental love to the offspring in daily life. Another expression of Hambageu's narcissistic attitudes emerges in his last will. The ultimate fear of every narciss concerns the inescapable destruction of his beloved body through death. Hambageu ordered his people not to bury his corpse in the first place, but to put it on top of a huge stone to be left there to dry. This can only be interpreted as a wish at preservation of his frame and features for, it can be said, the art and method of embalming the human body is unknown in East African traditions. We must here assume a lack of the narcissistic wish of eternal preservation which is so striking in Egypt's and in other ancient cultures. But Hambageu was subject to this longing by virtue of his narcissistic nature. His intended procedure can be taken as an equivalent for the mummification of his body though he invents the rationalizing motivation that his corpse should finally be buried at Samunge and not at Belwa where he was going to die. This was the type of man who could not even bear to be like any other of his fellow men, carried away from all natural bonds as a human being by his over-indulgence in his own person whose self-interest rules supreme in the scale of values. For such a mind to be born in the natural way as any other human being is, in the last resort, an insult to all he stands for

We recognize then in the myth of the automatic birth of Hambageu the most consequential manifestation of the narcissistic constitution. Similar traditions scattered over the globe suggest that they are engendered by all-human patterns of thought and emotion. In the record of the Egyptian God Ptahhotep, which is among the most ancient in existence, it is said: God creates but was not procreated (11a). Another denial of the birth of a god from father and mother concerns Mithras who was born out of a rock (11b). The nearest similarity to the Hambageu myth is to be found among the Red Indians of New Plymouth. Their god-creator Kiehtan also was created by nobody (11c). We must, of course, beware of seeing in these traditions, analogies to the higher notions of the one God Almighty who existed from the beginning of times and was not Himself created. There the notions follow but logically from the definition of Him, the all-powerful supreme Being.

The reconstruction of the psychological foundation of the Hambageu myth has so far left out of account that the elements of it which served as basis of this interpretation have not come down to us directly from the hero himself; he is said not to have himself claimed to be God, and he could not explain how he came to this world (12). It is useful to remember that the Hambageu myth has this in common with all myths prevalent among different peoples of the earth; that it is always these who invent the legends and create the myths; who endow the hero with extraordinary and magical features; who exalt his person, his origins and death and glorify his deeds. In doing so they do not really invent the story but they give themselves so to say away in so far as they unconsciously reveal the instinctive tendencies of their own personality rather than those of the hero. He, in any case, is but the projection of their own innermost longings, the fulfilment of hidden and repressed wishes of their own Ego which, in this context, is but part of the collective soul, the common heritage of mankind.

We have dipped into the vast treasure-house of depth-psychology in order to understand better the process which is here at work. By recollecting the dynamics of myth-creation we have to assign to the Sonjo those tendencies which make for the narcissistic character. But here the criticism is invited that of all peoples, in the African narcissistic features are least recognizable. What with his strict tribal codes which mould his character from birth to old age according to rigid patterns, allocating every one male and female his or her predestined place in the community at every point of his life-span according to age-groups and tribal customs; conditioning attitudes, activities, and the very reasoning; making for perfect conformism and uniformity. No one may jump the magic circle for fear lest his very existence be jeopardized which is insolubly chained to the collective of the community. There seems to be no room for the emergence of narcissistic trends. But as psychologists we postulate in the African the same basic tendencies as are existent in mankind as a whole, these cannot be lost into nothingness, and we must therefore assume that they have been forced to a kind of underground existence, that is to say, they have been repressed into the unconscious where, it must be noted, they retain their psychic energies, the tendency to break again to the surface of consciousness, exhibiting the kind of dynamism which is the very essence of psychological processes. As one of these latter we recognize the inner urge to project the hidden impulses into the outer world as pointed out above.

On these assumptions there can be no doubt that in the Tinaga narcissistic characteristics were strikingly absent. For them Hambageu was a solitary figure, a badly reputed fellow who kept aloof from their communal life and customs and dishonoured the tribal work (13). It was quite natural for them to consider him as an outcast who had to be called to account, for his unco-operative behaviour. The ambit of their attitudes and emotions lacked even the scantiest of sympathetic fluid. In contrast the Sonjo at once and instinctively recognized in Hambageu the personification of their hidden idol, investing him, by virtue of the projection mechanism of the soul, with their own repressed psychic tendencies, their hidden individualism, their forgotten attempt at unconformity, their original love of freedom from tribal coercion, their selfish traits, their longing for personal aggrandisement—in one word their narcissism. Consequently the fact that Hambageu came to them a stranger, a solitary figure with no tribal bonds whatsoever, was conveniently construed in the magical way purporting that he had come to the world automatically, that he had neither mother nor father, as we have seen. And equally consequently they conceived of his final apotheosis after his death. When a few days after he had passed away his grave was found by them empty that was enough to convince them that he must have risen from the dead—thus rather denying an inescapable necessity than admitting to the physical disfiguration and disintegration of their exalted hero-god. The illustrious, noble, and indescribably precious body of Narciss must be preserved in eternity, a vicarious representative of their own collective Ego.

The disposition to the narcissistic constitution is deeply embedded in every human being within the framework of physiological and automatically occurring developments as has been demonstrated beyond doubt*. In some it is easily recognizable, and it finds the highest expression in the artistic temperament and in productive minds, in the poets and myths-creators. Narciss tends to reappear periodically in authentic re-incarnations.

I have tried to show in my monograph on the Austro-German poet R. M. Rilke (14) that this process did not stop short in our own time. The unconscious meaning of what poets and the inventors of myths communicate to the world is often hidden behind their manifest creations encased like the grain of gold in the surrounding auriferous rock, in artistic imagery and symbols. We can nevertheless penetrate to this secret core for the unconscious of the one divines the unconscious of the other, as it were by underground communications.

Narcissism carries for a great number of people a message intensely moving and overwhelming. As Freud put it: If our unconscious becomes aware in an imaginative work, of the presence of narcissism, because the poet had remained fixed to this infantile condition of the libido, it is as if we envied him at his dwelling in a blissful Elysium, at his possessing the childhood's paradise which we others have lost long ago (14a).

*Some comment may not be out of place here: Ordinary daily observation teaches us that in early childhood "HIS MAJESTY the EGO", as it has been called, reigns supreme, and medical experience continuously amasses evidence of the existence of narcissism in everyone, which perceptibly manifests itself in the preliminary stage of normal sleep and in other hypnoid states of mind, further very conspicuously in our dreams and foremost during buffets of fate, in sickness and infirmities of old age. In these conditions self-interest is heightened, selfishness inhibits altruistic behaviour, our interest in the fellow man and the world diminishes proportionally, and even the rational faculties revert to a certain degree to magical and wishful thinking, on behalf of the Ego. If narcissism can be observed in its classical manifestation mainly in neuroses and psychoses it is nevertheless existent in a certain amount in every individual, and we find under normal conditions of life, in different individuals in various degrees.

By a devious way we have arrived at the heart of the problem. The personality of Hambageu must have touched upon certain configurations of the structure of the collective soul of the Sonjo, and the impact of his being made resound in them a secret melody, one of the most ancient leitmotifs of mankind. This constitutes, it is suggested, the psychological significance of the account of Hambageu, and the explanation of the curious influences he was exerting on the minds of his peoples. The story of this hero-god cannot be dismissed as yet another legend of an obscure African tribe. Its inner relationship to the amazingly manifold orbit of Narciss-versions which have come down to us (15) thereby establishing the powerful hold they are exercising over the imagination of mankind elevates it to the status and the dignity of a true mythus. This is underlined by the deification of the hero, by his resurrection from the dead and furthermore by the characteristic reference to another of the great myths of humanity. In the statement of Simeon Ndula one of Hambageu's deeds is outstanding, the act of producing fire in an unheard-of manner (16). The impact of this achievement on the onlookers leads us to suspect that thereby powerful archaic longings have been touched upon, the attitude of defying the Gods which found classical expression in the myth of Prometheus. It was on account of Hambageu's act of blazing fire without the normal instruments that the Sámunge idolized him as the creator of the earth; this miracle-working was the starting point of their potent mythopoetic imagination.

They did exhibit other similarities to eternal all-human themes; the transforming into stones of Hambageu's children is reminiscent of a number of them, of the myth of Medusa, daughter of Phorkys, and of the account of Lot's wife. This relation to biblical scenes is not astonishing if we remember that the Hambageu myth was born in Masailand where similar traditions abound (17). Among these is to be found the story of the Ten Commandments which were given to the Masai on Mt. Ol Donjo Geri (18), the name Sinai nowhere being mentioned; but here in the story of north-western Masailand the most devoted follower of Hambageu, the only one expressly named of all his peoples, is called Sinai, and this name was given to him symbolically for his great wisdom*.

Looking at the mythopoetic faculties of the African it is to be expected that he should be possessed of the ability to create other features of great cultures, contrary to preconceived popular ideas, and these potential powers are being increasingly recognized by recent research in West Africa (19).

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*Mr Fosbrooke, who has been given an opportunity to comment on the sociological aspects of this article, points out that Merker's analogies between Masai and Biblical myth, mentioned in the penultimate paragraph, is open to criticism. It might well be that the Sonjo were in their present habitat and the myth established before the Masai had arrived and made contact with them.—Ed.

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COMPARATIVE LAND TENURE OF TEN TANGANYIKA TRIBES

By E. B. Dobson

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INTRODUCTION

During the last few years I have had the opportunity of studying the detailed recordings of the customary land rules of ten tribes of Tanganyika which were compiled by Mr. H. Cory, Government Sociologist. The study of these rules has given rise to the idea that a comparison between them might be useful. I do not say that generalization is necessarily possible, but I do say that the factual evidence of the rules of these ten tribes shows certain obvious similarities and differences which allow of a classification of them accordingly. The tribes which I have used for comparison purposes are:—the Arusha, Sambaa, Gogo, Arimi, Nyamwezi, Sukuma, Kerewe, Haya, Hangaza, and Kuria. I have to thank Mr. Cory very much for his permission to use his recordings in this way, and also for the great help he has given me in this work. The Appendix shows the table which I made from which I have drawn my conclusions.

In making my classification I have taken into account what I consider to be the three main factors governing the customary land tenure rules and their evolution. These factors are:—

A. The political system of the tribe;
B. The scarcity or abundance of land suitable for cultivation;
C. The type of economic crops grown.

In every case these three factors have reacted on each other in various ways and the development of the land tenure rules has taken a slightly different path and has been rapid or slow according to the predominant importance of one factor over another. The original land tenure rules still persist everywhere to a greater or lesser extent alongside the new conceptions which have been developed. In this paper I endeavour to show what the effect has been on each of the tribes under consideration by first giving a summary of the more important rules prevalent at the present time in each group and then by showing the influence the three factors have had on the original rules to bring them to their present stage. This, in turn, gives an opportunity for prognostication as to the future development of land tenure conceptions, still from the point of view of the same three governing agencies.

I.—Proprietary system, land scarcity, perennial crop
(Arusha, Sambaa, Haya)

(a) Sale of land permitted, with or without the consent of the family.
(b) Effective cultivation not a condition of tenure.
(c) Uninhabited land for free allocation scarce and permission of authority required before such land can be cleared and occupied.
(d) Fragmentation occurring.
(e) No landlord and tenant system, though loan of fields prevalent.

N.B.—The Haya do not entirely fit into this category, since they are in the process of development from a feudal system of tenure. (e) is not applicable to them and (d) is not so marked as with the other two tribes. For this tribe see also under VII.

A proprietary system is not, of course, a political system, but is a system which has developed, in spite of the political structure of the tribe, because the other factors have been of particularly strong influence. Both the Arusha and Sambaa live in conditions of land scarcity on mountains, and cultivate perennial crops. Among the Haya also conditions of land scarcity exist because of the unsuitability of much of the area for the cultivation of their perennial cash crop—coffee.

The Sambaa have advanced the furthest of the three tribes towards a conception of individual proprietary rights. Their original form of tenure was what I have later described as the communal system. All land belonged to the tribe and the holder had only usufructuary rights over it. Even before the arrival of the European the custom of selling land, with the consent of the family of the holder, was practised in the Usambaras. A further step has now been taken and the right of the family over the holding of an individual is no longer recognized. An individual may sell his land in most chiefdoms either to a member of the tribe or to a stranger, provided he has either inherited or bought the land himself. The holder still has only usufructuary rights over land which has been allocated to him by the headman. Such land can, however, be inherited, so that the son of the man to whom it was allocated can hold it under a proprietary system. The comparatively rapid appreciation of the intrinsic value of land by the Sambaa is largely due to the shortage of land in the mountain areas, but it has also been brought about by the practice of cultivating bananas both as a food crop and for sale on the plains. Small plots of bananas or sugar cane are the most common types of field to be sold.

As far as the future development of the land rules of this tribe is concerned it has already been seen that the political system is no longer a dominating factor and that the natural and economic factors are leading inevitably to a system of complete individual rights in the land. For the near future the chief tasks are to prevent further fragmentation—brought about not only by the inheritance laws but also by the practice of selling very small plots—and to control land speculation. In this area the latter is a particular danger, since there is no rule against selling land to any of the innumerable aliens who come there because of the sisal industry in the plain below. In particular the land laws prevailing in those chiefdoms situated on the plain should be carefully ascertained and, if necessary, amended.

The Arusha have not travelled as far as the Sambaa, away from the original conception of communal tenure, although the natural and economic conditions are somewhat similar. Sale of land was here also customary before the arrival of the European, but it has always been the rule that it may only be sold to another Arusha or a Meru. The consent of the family must still be obtained before a sale is permitted and the family has a pre-emptive right to the land. This is probably because the original arrivals settled down in family groups, each at a distance from the other, and the family or clan conception is still strong, as opposed to the more communal tribal conception of the Sambaa.

The future development and measures for control here are similar to those of the Sambaa—if possible, to check the evil of fragmentation, in this case caused largely by the shortage of land combined with a feeling of strong proprietary right of the family, and to keep a careful watch against land speculation.

The Haya have still the remains of an original feudal system of tenure existing side by side with the more recent development towards proprietary rights. We are only concerned in this section with the proprietary system. Land can be sold, but the family still has a right of pre-emption. It seems probable, however, judging by the number of court cases now taken involving these family rights, that the Haya are even now progressing towards a system of individual rights. As with the other two tribes, the final development will inevitably be brought about by the natural and economic conditions, and only control and guidance is needed.

II.—Communal system, abundance of land, annual crop

(Sukuma, Nyamwezi, Gogo)

(a) No sale of land permitted.

(b) Effective cultivation a condition of tenure.

(c) No permission required from any authority to clear and cultivate uninhabited land.

(d) No fragmentation.

(e) No landlord and tenant system.

N.B.—In Gogo a pioneer may take up more land than he needs and others may settle on it as his tenants, but they pay no rent and are free to leave at any time.

These areas are examples of places where the abundance of available land has precluded development of the land rules beyond the original communal stage, and no conception of the intrinsic value of land exists. Even the introduction of cotton on a big scale in Sukumaland has not caused any change in the land rules, because there is still, in many areas, a sufficiency of land. The Nyamwezi and Gogo do not cultivate a cash crop of any importance. The latter depend for their economy on their cattle products; in Nyamwezi such crops as sunflower and groundnuts are grown but not to the extent that cotton is grown in Sukuma.

In all cases the land is held to belong to the tribe and is vested in the chief. No sale of land is permitted and no holder has more than usufructuary rights in the land. Anyone may be deprived of those portions of his land which are not effectively cultivated if they are required for another applicant. There is no ban on land being allocated to strangers provided they adhere to the conditions of tenure.

The Gogo rules originally followed a strict clan conception, but the clan system has to some extent been broken up by various movements of the people and, since there is no scarcity of land, their rules now approximate more closely to those of the tribes following communal systems of tenure. The chief, who is responsible for land allocation, and the clan head are one and the same person and to this extent the land is still considered to belong to the clan. But the more proprietary attitude of the clan towards land in other areas is here absent.

Development towards individual proprietary rights will probably be very slow in these areas. The holder has complete security of tenure for himself and his children as long as he continues to cultivate the land, and he therefore has no particular desire to change the present order of things. Neither the political system nor the natural conditions are likely to accelerate the process. Indeed, we ourselves are retarding any such contingency by making new areas available for cultivation to such people as the Sukuma by the clearing of fly bush, the making of water supplies, etc. It is difficult to see how any startling developments can be brought about in the sparsely populated areas in the near future. The introduction and increase of cash crops (which are bound to be annual ones in this type of country) and improved methods of agriculture generally are bound in themselves to start a new conception of land in those areas where no proprietary rights have yet come into being. But the fact remains that, as long as there is enough land to obviate the necessity of intensive agricultural methods, a conception of the intrinsic value of land is going to be difficult to inculcate. If mechanization schemes, at present still in an experimental stage in Sukumaland, come to fruition, a scarcity of arable land for allocation for individual needs may arise and a system of landlord and tenant may be brought into being by those who are quick to see the opportunities offered. This artificially created land shortage may tend to accelerate the conception of the cash value of land, especially if there is a profitable cash crop, such as cotton, in the area. In the case of the Gogo it seems possible that animal husbandry may increase in importance to the extent that the whole agricultural policy will be developed to this end. If this occurs, it will have an incalculable effect on the present land tenure system.

III.—Clan system, scarcity of land, annual crop

(Kuria)

(a) No sale of land permitted.

(b) Effective cultivation not a condition of tenure.

(c) Permission of authority required before uninhabited land can be cleared and occupied.

(d) Fragmentation occurring.

(e) No landlord and tenant system, though loan of fields prevalent.

In the case of the Kuria the clan system is still so strong that the scarcity of land has not yet influenced the evolution of the land tenure rules. All the land is still considered to belong to the clan, in spite of the fact that in uninhabited areas the official authority for allocating land is the village headman. Unless the latter is also the head of the sub-clan this authority is only reluctantly recognized by the people. No one who is not a member of the clan or has not become a blood-brother of a member, may be allotted a holding in clan land. The clan has strong proprietary rights in the land and a member cannot be deprived of his holding on the grounds that it is not effectively cultivated. No sale of land is allowed. The growth of maize for sale has so far had no effect on the land conception.

The clan system of tenure is quite unfitted to modern times and developments, and evolution from it is inevitable. This must happen naturally as strangers infiltrate into the clan areas and members of the clan emigrate elsewhere. Also, since the political aspect is here of dominating importance, political changes are bound to have an effect. Since the Kuria rules were recorded a number of political changes have already taken place in the district, which may well have now had some effect in modifying the clan system of tenure. The question of whether the development is directly towards individual proprietary rights or firstly towards a communal system, as with the Gogo, is largely governed by the scarcity or otherwise of available land, and the nature of the crop grown. The scarcity of land, though it has not yet to any extent influenced the original rules, is bound to be a contributing factor towards their development—probably in the not far distant future.

IV.—Clan system, abundance of land, annual crop

(Arimi)

(a) Sale of land permitted, but with prohibitive restrictions on non-members of clan.

(b) Effective cultivation not a condition of tenure for clan members.

(c) Permission of authority to clear and cultivate uninhabited land only required by a stranger, not by a clan member.

(d) Fragmentation occurring.

(e) No landlord and tenant system, though loan of fields prevalent.

Among the Arimi also the clan system has so far met with very little change*. Different rules are followed according to whether land is allocated to a clan member or a stranger. The member of the clan has full security of tenure on the land allocated to him and cannot be deprived of it even if he does not cultivate it; while the stranger has only usufructuary rights, effective cultivation being a condition of tenure. The chief is the authority for land allocation but, since he is also the head of the clan, no complications arise between conflicting authorities as is the case with the Kuria. The Arimi, like the Gogo, depend largely on cattle products for their economy. No land scarcity has had, or is likely to have in the near future, any effect on their land rules, so that natural development is unlikely except at a very slow tempo. The break-up of the political clan system is not likely to be rapid and probably little can be done to assist it. It might be possible to exercise some control over fragmentation, which accompanies the clan system even where land is abundant, by some modification of the inheritance laws. As with the Gogo, a possible change in the whole agricultural system to fit in with animal husbandry might cause radical changes in the land tenure rules.

*Sale of land is permitted by the Arimi rules, for what reasons further investigation could probably discover. The family, however, has a pre-emptive right to buy back any land which has been sold, with no time limit for the exercise of this right. The heirs of the original holder can claim their right to buy back the land even in the second generation. This virtually nullifies the effect of the sale, since no buyer can feel completely secure in his tenure unless he is a member of the family. In addition a stranger would be very unlikely to wish to buy land situated in the midst of a clan which was not his own. For these reasons the custom of sale is so far unimportant in its effect on the land tenure system of the Arimi.

V.—Semi-feudal system, scarcity of land, annual crop

(Kerewe)

(a) No sale of land permitted.

(b) Effective cultivation a condition of tenure for holder of allocated land, but not for estate owner.

(c) Uninhabited land scarce and permission of authority required before such land can be cleared and occupied.

(d) Fragmentation does not occur to an uneconomic extent.

(e) Landlord and tenant system.

The Kerewe system cannot perhaps be called feudal in the strictest sense of the word. Large estates were taken up by early immigrants to the island, over which their descendants claimed, and still claim, proprietary rights (though no sale of land is permitted in Ukerewe). The scarcity of land and the introduction of annual cash crops have been of great importance in enhancing the value of the landlord estates. Since land is scarce on the island, though there is as yet no shortage on the neighbouring mainland, a man wishing to cultivate there is almost bound to apply to an estate owner for permission to use some of his land. At the same time the introduction of cotton and rice has made it possible for landlords to charge annual rent for fields used for the planting of these crops. In some cases fields of this kind are actually auctioned annually to the highest bidder. Such land as is not privately owned but is in the hands of the Native Authority for allocation is very often also subject to an annual rent, payable to the headman of the area. The Kerewe show very clearly what effect the introduction of a cash crop may have on the land tenure system. As long as a tribe is growing only food crops sufficient for its own consumption the question of an actual cash value of land does not arise. Though a landlord and tenant system has prevailed here for many years, only with the introduction of cash crops have the landlords begun to charge rent to their tenants. Before this the tenants were simply expected to make their landlords presents in kind out of their harvest. Similarly land allocated by the Native Authority was allocated free, and this is still the case where food and not cash crops are to be grown.

Future development in Ukerewe is not without problems. The natural evolution towards individual proprietary rights for smallholders which the land scarcity should bring about has been diverted because of the existence of large estate owners combined with the introduction of annual cash crops. No sale of land has so far been permitted since, as long as the landlords can make a small annual sum from their land, they have no desire to sell it. In the political sphere the first step must be to abolish or regularize the payment of rent and perhaps to set a limit to the number of years an estate owner may be absent and still claim his estate on his, or his children's, return. Rules to the latter effect have actually been passed, but they proved so unpopular that they were never implemented in practice. No new estates can now be acquired because of the shortage of land, except on the mainland, so that careful measures may straighten out the deviation and a natural development towards individual smallholdings may continue.

VI.—Feudal system, scarcity of land, perennial crop (Hangaza)

(a) No sale of land permitted.

(b) (i) No security of tenure for peasant holder or squatter, whether land effectively cultivated or not.

(ii) Considerable, but not complete, security of tenure for landlord, whether land cultivated or not.

(c) Uninhabited areas can only be occupied with permission of landlord and payment to him of rent and tribute.

(d) Fragmentation of large estates occurs, but not to an undue extent.

(e) Landlord and tenant system.

The land tenure rules of the Hangaza are almost certainly unique in Tanganyika. A feudal system is still practised more or less in its original form. Vast estates are owned, largely by members of the ruling Tusi class, and the tenants on these estates pay rent and tribute to their landlords and have little or no security of tenure. No sale of land is allowed and these estates, together with their tenants, are handed down from father to son. Even in recent years large estates have been allotted by the chief to his favourites, the occupiers of the land being turned from peasant holders into squatters by the allocation. Natural and economic factors have here no significance because of the strangle-hold which the feudal landlords have on their tenants. The cash crop is coffee, a perennial one, but it is extremely unpopular, as any perennial crop must be where there is no security of tenure. There is no real scarcity of land if the people were able to spread freely from the mountain ridges, but in fact conditions of scarcity exist because the feudal system tends to create close settlement of tenants around their landlord.

A first step has already been taken towards future better conditions by the passing of land rules intended to modify the system and ameliorate the lot of the peasant holder. Until the feudal system has been modified there can be no hope of the other factors playing their part in the development of land tenure in this area. It may be hoped that now that the process has been started development will continue more rapidly with the freedom of the people from their present limited agricultural prospects by the opening up of new land and opportunities. Security of tenure should do much to diminish the numbers migrating annually to Uganda and to popularize the coffee crop.

VII.—Remnants of the feudal system still persisting in various of the above tribes

The beginning of land tenure systems among all agricultural tribes may be said to have been feudal, in a certain sense. Holdings were originally taken up, not by allocation, but by the conquest of nature. The early pioneers, when they carved their holdings out of the bush, were not concerned with the exact demarcation of boundaries and there was nothing to prevent them from claiming large areas for their own.

In many places remnants of this form of tenure can still be found, apart from Ukerewe where the system is still so strong as to deserve a special classification. In Sukuma, for instance, there still exist certain large estates and, though the land rules allow only of usufructuary rights, tradition and sentiment are still so

strong that the children of land holders in a congested area in the neighbourhood of the estate may take up land in a distant reception area rather than infringe on unused land on the estate.

Among the Gogo, who are still at the stage where it is common for pioneers to cut themselves new holdings out of the bush, a man will deliberately claim more land than he has need of, and weaker spirits following him become his tenants, and, though they are quite free and pay no rent, the land continues to be considered the property of the man who first opened up the area. In both these areas the last feudal vestiges will certainly disappear when any real land shortage arises.

The case of the Haya is rather different, and their original form of tenure approximated more closely to that of the Hangaza than that of the Kerewe. A powerful people immigrating from outside imposed themselves on the indigenous population and took up large portions of land for themselves which were cultivated by the inhabitants, and thus a landlord and tenant system arose. A number of other factors, such as customs connected with the burial places of chiefs in Bukoba, also contributed to the system. Owing to the natural and economic conditions a proprietary system has grown up in Bukoba, as has already been shown under section *I*. These conditions, together with a change in political conceptions, are in the process of causing the Haya feudal system to die out altogether. No new estates can now be allotted and the position of tenants has already been regularized by land rules passed first in 1930 and revised in 1938. By these rules the tenants are given a certain security of tenure and the amount of rent payable by them has been legally fixed. The inevitable death of the feudal system can be accelerated by the careful control and execution of the existing land rules and by preventing free peasant holders from being turned into squatters by unscrupulous and powerful rulers.

CONCLUSION

The foregoing pages have shown the various stages of development of these ten widely differing tribes, according to political, natural and economic conditions. One final result of the inevitable trend—in some places rapid, in some so slow as not yet to be perceptible—remains to be mentioned.

In all areas the traditional leaders of the tribe, whether feudal overlords, clan leaders, or chiefs and headmen, who now in most places constitute the personnel of the Native Authority, have the right of land allocation in their districts. This right constituted, and still in many places constitutes, one of the main pillars of the power and authority of the Native Administration over their people. We must recognize that this pillar is going to be broken down, together with other traditional pillars, such as magico-religious and military powers, the payment of tribute, etc., of which the Native Authorities have either already been deprived, or are in the process of being deprived. When their control over the land has been removed from them, little will remain of the traditional authority of these office bearers, who are bound to rely more and more on the one new pillar which has been built up for them—the support of the Central Government.

It might therefore be said that, while the political system has been of great importance in the evolution of the land rules, the evolution of the land rules is finally going to have an important effect on the authority of the traditional political leaders of the tribes.

APPENDIX

COMPARATIVE TABLE OF LAND TENURE RULES

Method of Acquiring Land	Sukuma	Nyamwezi	Gogo	Arusha	Sambaa	Haya	Arimi	Kuria	Kerewe	Hangaza
1. By Allocation										
(a) Authority for allocation	Headman and Basumba Batale	Headman and Msenga Kaya	Sub-Chief	Chief and Headman (formerly no one)	Headman and tribal elders	Headman and elders	Chief and Headman	Headman	Chief and Headman	Chief and Headman
(b) Fee paid for allocation?	No	No	No	No	No	Yes	No	Yes	Formerly no. Now sometimes paid for land for cultivation of cash crop	Yes
(c) Recipient of fee	—	—	—	—	—	Native Treasury	—	Headman	Headman	Chief for Headman or landlord. Headman for peasant holder. Landlord for tenant.
(d) Usufructuary or proprietary rights in allocated land?	Usufructuary	Usufructuary	Usufructuary	Proprietary	Semi-proprietary (no sale)	Usufructuary	Usufructuary for stranger. Proprietary for clansman.	Semi-proprietary (no sale)	Semi-proprietary for landlord estate. Usufructuary for smallholder	Land held only by goodwill of chief for landlord and headman, headman for peasant holder.
(e) Can land be allocated to a stranger? ...	Yes	Yes	Yes	Tribesman only	Yes	Yes	Yes—but different rules for strangers	Tribesman or blood-brother of tribesman only	Yes	Yes
(f) Uninhabited land										
(i) Permission of authority required?	No	No	Authority informed	Yes	Yes for stranger. No for inhabitant	Yes	Yes for stranger. No for clan member	Yes	Yes	Yes
(ii) Boundaries of holding marked ?...	No	No	No	No	Yes for stranger. No for inhabitant	Yes	No	Not always	No	Yes but vaguely
(iii) Can landlord estate be acquired ?...	Now very rarely	Yes, but rarely if ever done	Yes	No	Now very rarely	Not now	Yes	Yes—but now rarely	Yes—but only on mainland	Yes
(g) Inhabited land										
(i) Permission of authority required?	Yes	Yes	Authority informed	Yes—except for abandoned holding when consent of clan only	Yes	Yes	There is no clean arable land without an owner so section G does not apply	Yes or consent of clan	Yes	Yes. or landlord
(ii) Boundaries exactly marked? ...	Yes	Yes	Not necessarily	Yes	Yes	Yes	—	Yes	Yes	Yes
(iii) Limitation on size of holding ...	Yes	No	No	Yes	Yes	Yes	—	Yes	Yes	According to means of holder and available space.
2. By Inheritance										
(a) Consent of authority required before inheriting land?	No for son. Yes for other relative	No	No	No	No	No	No	No	No	Yes—except for chief's relatives
(b) Holding divided between heirs? ...	No—except perennial crops	No—except perennial crops	No	Yes—all sons	Yes	Not uneconomically. *	Yes	Yes	Not uneconomically *	Yes—all sons
(c) Females inherit land?	Yes	Yes	Yes	No	Yes	Formerly no. Now does occur	No	No	Yes	No
(d) Heir usufructuary or proprietary rights?	Usufructuary	Usufructuary	Usufructuary	Proprietary by family	Proprietary	Proprietary by family	Proprietary by family	Semi-proprietary (no sale)	Semi-proprietary (no sale)	As in I.D.
(e) Landlord estate be inherited? ...	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. By Agreement										
(a) Sale of all types of land permitted?	—	—	—	Yes	Yes	Yes	Yes	—	—	—
	—	—	—	Yes	Only bought or inherited	Only bought or inherited	Yes, by clan member	—	—	—
(b) Sale to stranger allowed? ...	—	—	—	Tribesman only	Yes	Yes	In effect clan member only	—	—	—
(c) Has family pre-emptive right to buy the land?	—	—	—	Yes	No	Yes	Yes	—	—	—
(d) Is complete holding sold or only single fields?	—	—	—	Sale of complete holding rare	Sale of complete holding rare	Both	Both	—	—	—
(e) Lease or Loan:										
Complete holding or single fields only?	Single fields	Single fields	Both	Both	Single fields	Both	Both	Both	Both	Both
Rent paid by tenant?	No	No	No	No, but presents in kind	No	Yes	No	No	Yes—for cash crops. Presents in kind for other crops	Yes
Can tenant be evicted at any time?	Yes	Yes	Yes	Yes	Yes	Now safeguarded by N.A. rules	Yes	Yes	Yes	Yes
DATE OF RECORDING	1949	1952	1946	1947	1946	1940	1947	1945	1952	1944

* land is not sufficient to provide a complete holding for all heirs, it is only divided between as many as can be given complete holdings.

THE MBUGWE TRIBE: ORIGIN AND DEVELOPMENT*

By Robert F. Gray

The Mbugwe are a Bantu-speaking tribe, numbering about 7,500 individuals according to the 1948 census, who live in the Mbulu District of the Northern Province of Tanganyika. Their tribal area is at the south end of Lake Manyara and lies athwart the Great North Road. A traveller who follows this road south from Arusha can see most of Mbugwe from his car windows. After passing through the "fly-post" at milepost eighty he will see two large hills east of the road and nearby. As one of these hills has a double summit they appear to be a group of three pyramids from a distance and are so designated by local Europeans. From the Pyramids, and from the road for the next six miles south, the houses of the Mbugwe can be seen rather evenly spaced over the flat valley-bottom between the road and the Rift Escarpment to the west. If it is a clear day the characteristic Mbugwe mirage will make the distant houses appear to be floating on water. Extensive fields of mtama are to be seen on the low ridge east of this stretch of road, for the Mbugwe build their houses on the barren alkaline plain that was formerly the bed of the salt-water Lake Manyara and cultivate their crops in large blocks of fields on higher and more fertile ground. The grazing grounds for cattle are still farther afield.

The neighbours of the Mbugwe are non-Bantu tribes. The Masai, whose territory marches with Mbugwe on the east and north, have long been in close but hostile contact with the Mbugwe. The Iraqw or Mbulu occupy the plateau above the Rift Wall to the west of Mbugwe, while to the south there was rather weak contact with the Gorowa or Fiome. The Mangati or Tatog, though not immediate neighbours of the Mbugwe, have been in intimate contact with them in the past, and several of the ruling families of the Mbugwe are of Mangati origin. The Irangi of the Central Province are closely related to the Mbugwe but have been separated from them by intervening tribes for many generations.

The past history of the tribe is a subject of lively interest to the older members. The past is represented both mythologically and historically in their traditions. The origin and early history of each clan are embodied in a song. These origin stories, which are but dimly understood at present, are mythological in character and have little or no historical value. But there are also historical traditions through which the Mbugwe are aware of some nine or ten generations of concrete events and changing conditions leading up to their present situation. By examining these traditions, and by taking account of their social institutions and of comparative information about other tribes in the region, it is possible to see the social and political development of the tribe in broad outline.

The name "Wambugwe" appears to be a Swahili version of the native name *Vambowe* (sing. *Mombowe*) by which the tribesmen call themselves, the root *mbowe* meaning "partridge." This name comes from the traditional story of their arrival in the country and their origin as a separate tribe. The traditions tell

*The field-work, carried out in 1950–51, on which this paper is based was supported by a Fulbright research grant.

of a parent tribe to the present Mbugwe and Irangi tribes. Some native accounts locate this ancestral group in what is now the Sandawi country in the Central Province, but other informants suggest the Ndareda region, now occupied by the Gorowa tribe, as the homeland. There is general agreement that these ancestors had originally migrated from the west. A time of famine and distress came upon these ancient people and one section of the tribe migrated northwards, drawn by the lure of the plentiful francolin which they trapped and hunted as they do to this day. These people, who were given the soubriquet "Partridge-men" (*Vambowe*), were the forerunners of the Mbugwe tribe. The movement is said to have taken place in two waves, the emigrants wandering from place to place for several generations before finally settling in Mbugwe. Among the stopping places mentioned in the traditional account are Kisese, Galappo, Kiru, Bolukerai, and Kisangaji. The story then goes on to relate movements and events that occurred later within the country of Mbugwe.

As one might expect from this brief history, the Mbugwe and Irangi regard each other as closely related and share many cultural features. The published anthropological writings* on the Irangi are too fragmentary to permit a precise comparison of the two tribes, but by supplementing this information with the observations which I was able to make during a short visit to Kondoa District, the main cultural similarities and contrasts are made evident. The two languages are clearly very closely related, though not quite mutually comprehensible; a person of either tribe can quickly learn the other language. A large proportion of the vocabularies of these languages are either identical in form or obviously derived from the same word. I estimated that three-fourths of the Mbugwe vocabulary was related to Irangi. The economic activities of the two tribes are comparable, allowing for the differences in their respective environments. The Irangi were skilful iron smiths, while the Mbugwe excelled in pottery and leather goods; there is a tradition of inter-tribal trade in these and other commodities. The clan systems of the two tribes overlap to a considerable extent. The Mbugwe have eighteen and the Irangi twenty clans; twelve of these are common to both tribes, though not called by the same name in every case. All the clans are matrilineal—a person belongs to the clan of his mother. With the Irangi, outside of the centres of Islamic influence, inheritance seems to follow a matrilineal principle; that is, a man's property is inherited by his uterine brothers and sisters or (in the next generation) by his sister's children. The Mbugwe, however, have adapted a system of inheritance by which a man's property goes to his own children. This was well established before Arab or European influence reached Mbugwe. The Irangi also seem to have practised cross-cousin marriage, which is entirely unlawful for the Mbugwe. In the political field the Irangi had no indigenous organization larger than the small village or parish of related homesteads, while the Mbugwe developed a system of powerful chiefdoms having centralized political power. These inter-tribal comparisons will be noted further as we work out the political development of the Mbugwe.

When the first Mbugwe arrived at their present home they found the country partly occupied. A tribe of pygmy hunters were living in the Ntarengiri Forest east of Mbugwe, and the valley that drains into Lake Burunge was being cultivated by a sedentary tribe who were called *Verwana*. The pygmy hunters soon left

*Werther (1898), pp. 345–356; Baumstark (1900). See bibliography at end of article for full references.

the region and no information about them has come down except the mere mention of their original presence. The Mbugwe have no special name for these little people and refer to them descriptively or by the Swahili name *mbilikimo*. With the agricultural *Verwana*, however, there was considerable contact which was not entirely friendly. Although there is no tradition of open warfare between the two groups, a well-known story suggests that there was keen rivalry for the land. According to this story, the Mbugwe adulterated some honey by mixing it with purgatives and other disagreeable medicines. A gourd of this honey was then carried past a group of *Verwana* men who were playing bau (*otuo*) and dropped on the ground so that it broke. The *Verwana* youths scooped up the spilled honey and ate it. Many of them died from this and the rest were violently ill. Shortly afterwards a large section of the *Verwana* tribe left the country, and those who remained were gradually assimilated to the Mbugwe. The destination and fate of the migrating *Verwana* are not known to the present Mbugwe. It is recognized by the natives that *Verwana* stock constitutes an important element in their population. A number of people claim to be of *Verwana* origin, but I found no one who could trace his genealogy back to a pure *Verwana* forebear.

The modern Mbugwe believe their language to be a blend of *Kembowe* and *Kerwana*, the two ancient tribal languages. The archaic words, which occur in some of the old songs and are not understood by the younger Mbugwe, are said to be *Kerwana* words which have been replaced in usage by synonyms of *Kembowe* origin. In order to make a limited test of this theory I used a random vocabulary sample of 200 words of the Mbugwe language and a series of bilingual informants. These words were first compared with their equivalents in the Irangi language: the result was 150 words which were either identical in the two languages or showed clear evidence of derivation from common roots. The remaining 50 words were then compared with their equivalents in the Masai, Iraqw, Gorowa, and Mangati languages; three more words were accounted for in this way, one being related to an Iraqw word and two to Mangati words. Of the 200 words 47 showed no relation to the Irangi language or to the tribes neighbouring the Mbugwe; these may be presumed to represent the *Kerwana* element in the Mbugwe language.

There is little direct evidence for determining the date of the original Mbugwe migration The common tribesman does not trace his genealogy beyond a great-grandparent, thus ruling out dead reckoning of the date by counting generations; nor does the traditional account mention any external events which might be dated independently. However, the ruling families of foreign origin are able to trace their genealogies back to the founders of the dynasties who are believed to have been the first members of their families to arrive in Mbugwe. In order to analyse these genealogies it is necessary briefly to describe the traditional political divisions of the tribe.

At the time of the German conquest the Mbugwe were divided into seven sections which were more or less independent politically. Six of these were ruled by hereditary chiefs but the seventh division had no chief and governed itself as a primitive republic. Three of the six chieftainships were of *Vambowe* origin and three were of foreign origin. The chieftainship in every case descended in the male line from father to son. The chiefs are called *vasungati* (sing. *mosungati*). The genealogies of the ruling families are quite widely known. In Table 1 the names of the *vasungati* in each dynasty have been abstracted from

the genealogies and listed in chronological sequence, the German conquest being taken as a datum line for synchronizing generations. Immediately following are some explanatory notes on the political divisions of the tribe and the dynasties that ruled them.

Kaiti	Mwada	Lese	Shaushi	Idulu ya Nsereri	Idulu ya Mweri
Manka					
Kemojalo	Guraruma				
Ivamba (Nkongo)	Mahembo		Mataka		
Chembi	Lali		Mureni	Gicha	
Siyoi	Mandao		Fena	Mbee	Baranda
Mjengi	Emeda	Mboo	Mara	Gicha	Gicha
Mtakaiko	Shani	Mandao	Mogoni	Mbee	Mboto
	Gutadu		Jongo		(a woman)
		GERMAN CONQUEST			
Mjengi		Songa			
Michael Mtakaiko					

Table 1.—Genealogies of Mbugwe Chiefs.

1. *Kaiti.*—This chiefdom occupied the northernmost part of Mbugwe. Its pastures are bounded by the Masai range, so that Kaiti has been in more intimate contact with the Masai than the other sections of the tribe. The origin of the ruling family is Iramba or Isanzu and there is some Masai blood in the family due to marriages with Masai women. Tha *vasungati* of this family were famed for their powerful charms and medicines. The chiefdom reached its highpoint in power and prestige under Mjengi, the father of Mtakaiko, who gained a virtual monopoly of rainmaking for the whole tribe. Mjengi concluded a peace treaty with the Masai which permitted that tribe to use Mbugwe watering points at certain seasons. This treaty, which seems to have been faithfully observed by both sides, throws light on the political autonomy of the different chiefdoms, because during the long peace with Kaiti the Masai were frequently at war with other sections of the tribe, especially Ubwa.

The first European to visit Mbugwe was the German explorer Oscar Baumann in 1892. This was during the reign of Mtakaiko who was already an elderly man at that time. Baumann, who pitched his camp near Mtakaiko's homestead, found the Kaiti warriors to be arrogant and hostile. Strained relations between the two forces led to a pitched battle in which Baumann defeated the Mbugwe but lost fourteen of his men, mainly because of poor discipline. Mtakaiko was later deposed by the Germans, but his son Mjengi, who is still living (1951), carried on at least with the ritual functions of chieftainship. Mjengi's son Michael was installed as Paramount Chief of the Mbugwe early in 1951—the first Christian to hold this position.

2. *Mwada.*—Because of its central location within the tribal area, this sturdy chiefdom held a balance of power among the contending divisions of the Mbugwe. The ruling family was of Mangati origin, coming from Gorosi, north-west of

Mbugwe. There was at least one later influx of Mangati from the same region. These foreigners, although they became assimilated to the Mbugwe in culture, continued to recognize their patrilineal Mangati clans until recently, and some of them retained contact with their relatives in the parent tribe. Mwada was the most prosperous of the chiefdoms and the least molested by the Masai. In the contest for rainmaking, however, the *vasungati* of Mwada lost their position to Mjengi of Kaiti.

3. *Lese.*—The fourth *mosungati* of Mwada, Mandao, divided his country between two sons: Emeda ruled the larger part which retained the name of Mwada, while Mboo took over the smaller part which was called Lese. After the Germans had exiled the Mwada chief, Shani Gutadu, and his sons the Lese branch of the family claimed to represent all of Mwada. This claim was recognized by the British administration for a time when Songa was appointed Paramount Chief.

4. *Shaushi.*—This chiefdom was ruled by a *Vambowe* dynasty whose genealogy is traced back two generations less than the Kaiti dynasty. Longer versions of this genealogy exist but the one recorded in Table 1 is generally accepted as correct. Shaushi was a powerful chiefdom in its best days, but the last *mosungati*, Mogoni Jongo, brought the country to ruin by his misrule. Many of his subjects moved to other chiefdoms; those who remained finally rebelled and Mogoni Jongo was forced to seek sanctuary with Shani Gutadu who thereupon annexed most of Shaushi to Mwada, leaving Mogoni only a small remnant of his domain over which he was ruling when the Germans arrived.

5. *Idulu.*—The southernmost chiefdom was under the rule of *Vambowe* chiefs. Idulu was actually divided into two independent chiefdoms—*Idulu ya Nsereri* and *Idulu ya Mweri* ("East" and "West" Idulu). The old chief Gicha, as with Mandao in Mwada, divided his country between his two sons, Mbee and Baranda. There is no history of quarrels or serious differences between the two, and for convenience Idulu may be treated as a single political division. The chief topic in Idulu history is the terrible war with the Masai. The country, lying under the Rift Wall, occupied for long the most sheltered position in Mbugwe. Then the Masai occupied or gained control of the Mbulu plateau and started to raid Idulu by descending the escarpment. The Mbugwe raised an army and met the Masai in a battle which ended inconclusively. Immediately afterwards, perhaps on account of the dead bodies lying about, the country was terrorized by an invasion of man-eating lions—a periodic disaster in that part of Mbugwe. While the land was temporarily depopulated for that cause, the Masai struck a devastating blow, killed hundreds of people, including the old chief Gicha, and drove off large herds of cattle. In this contingency the urgency of the Masai menace induced the neighbouring state of Ubwa to drop their traditional quarrel with Idulu; the two sub-tribes combined their forces and dealt the Masai a crushing defeat.

6. *Ubwa.*—The south-eastern part of Mbugwe was occupied by a division of the tribe which was comparable to the chiefdoms in most respects, but which had no chief. Ubwa governed itself as a primitive republic by a council of elders and stoutly resisted attempts at establishing a chieftainship or submitting to the hegemony of one of the chiefdoms. It is difficult to gather historical information about Ubwa because of the lack of a royal family to pass on tradi-

tions. The German explorer Werther, writing in 1898, was impressed by *die Republik Wabwa*, and to this day there is a strong feeling of loyalty to the old republican traditions in the Ubwa District.

In time of war—probably most of the time—a temporary military leader (*mangi*) was elected. Ubwa was involved in a chronic boundary dispute with Idulu which erupted into armed conflict from time to time. These boundary disputes, which were the principal cause of inter-tribal wars with the Mbugwe, concerned the cultivated land rather than the areas occupied by houses. Each chiefdom, even today, possesses its own stretches of arable land in which only members of the chiefdom are permitted to cultivate. This relation between political division and cultivated land does not apply in the case of pasture lands which are allotted on a different basis.

Besides the six main sub-tribes which have been listed, there were several others which no longer existed as independent units at the time of European intervention. The most important of these, *Kaiti ya Mweri* ("West Kaiti"), figures in traditional history as an ally of Mwada and Shaushi against the united forces of Kaiti and Idulu and later Ubwa. *Kaiti ya Mweri* was eventually subjugated by Mjengi and incorporated as a part of Kaiti. The other small chiefdoms suffered a similar fate. The general trend in Mbugwe political history is towards centralization; had the tribe been allowed to continue unhindered for another generation or two political unity might well have been achieved. As it happened, their indigenous political development was cut short by German intervention, and, to judge from the meetings and discussions preceding the appointment of a new paramount chief in 1951, political loyalties were arrested at that point, attached to the old chiefdoms which have been non-existent for half a century.

To return to the question of chronology, the earliest landmark in Mbugwe history that can be established with any certainty must be reckoned from the genealogy of the *vasungati* of Kaiti. Counting Michael Mtakaiko, the present Paramount Chief, the list covers nine generations; assuming that the founder Manka arrived in the country as an adult, and allowing twenty-five years to a generation, the origin of this dynasty is dated at two hundred years ago or *circa* 1750. Guraruma, the founder of the Mangati dynasty, must have been almost contemporaneous with Manka. The country was already settled by *Vambowe* at that time. The newcomers gained their political power by virtue of their superior knowledge of rainmaking and magic rather than by force of arms. The ruling families of *Vambowe* origin have shorter genealogies, but it is possible that they have been truncated because of the lack of interest in tracing ancestors among the the *Vambowe*.

The specific events which are related in the histories of the different chiefdoms took place mostly in the last two or three generations before the German conquest. Apart from the genealogies, there is little information concerning earlier events. Thus there is a comparatively blank period in Mbugwe history from the original *Vambowe* migrations down to the time when the chiefdoms were going concerns. This was a period of social and political changes which brought about the formation of the modern Mbugwe tribe. Two main trends can be discerned: the social organization was marked by a change from a matrilineal to a patrilineal bias; the political system which had been originally based on kinship and lineage was replaced by a territorial system.

The present Mbugwe possess a distinctive and uniform culture; the similarities between the Mbugwe and Irangi in culture and language provide evidence that the main features of this culture came down from the earliest *Vambowe* settlers with little change. The bulk of the population has no doubt descended from the original immigrants. The foreign elements which entered the tribe later were assimilated to this basic culture but introduced some new features of political and social organization.

The political organization of the early *Vambowe* probably consisted in small settlements of matrilineal kinsmen scattered about the area in clearings and on ridges, wherever there was a suitable site for a cluster of homesteads surrounded by their mtama fields and pastures. These villages were called *turi*—a word which is applied to a comparable group among the Irangi, and which is still used by the Mbugwe for a small neigbourhood group. The members of a *turi* may have belonged to the same lineage or subsection of a clan (*tombo*). The clans themselves were undoubtedly dispersed throughout the tribal area. At present there is no vestige of association between clans and localities. The leader of a primitive *turi* was called *mosungati;* this word was used to designate the rich man or headman of the community by the Irangi, though it now appears to be obsolete.

Two events which were crucial in Mbugwe history were contact with the southward-advancing Masai and the arrival of foreign immigrants bringing new political ideas with them. Mr. H. A. Fosbrooke estimates that the Masai had penetrated as far south as Usagara and made contact with the Hehe by the beginning of the nineteenth century*. They may well have reached the Manyara region several generations earlier or at about the time that Manka and Guraruma were using their reputations as rainmakers to extend their political influence outside their own villages. With the presence of Masai in the region the old settlement pattern would offer insufficient protection against raids. The scattered homesteads could be easily surprised and plundered of their cattle by the marauding Masai *moran*. In that crisis, the geographical features of the land were utilized in laying out the spatial and ecological arrangements which have characterized the tribe up to the present. The houses, in which the cattle are kept at night, were moved onto the alkaline plain, which was of little use for crops or pasture, and the surrounding fertile land was put to systematic economic exploitation. From this new position it was possible to organize successful defensive measures against Masai raids.

The new ecological arrangements required closer political organization and economic co-operation than previously when the homesteads had been largely self-sufficient territorial units. The tribe had come in some ways to resemble a large town within which the *turi* or neighbourhood groups took on the character of "wards." These *turi*, which were independent of the clan system, were mainly concerned with the herding of cattle. The members of a *turi* brought their cattle together to form a single herd which was taken to the far pastures and returned every day, each member serving as herdsman in rotation. The powers of regulating these tasks and enforcing the discipline of herding were vested in elected officials in each *turi*. With the rise of the chiefdoms, the *turi* officials also acted as the representatives of the people at the courts of the chiefs.

*H. A. Fosbrooke, "An Administrative Survey of the Masai Social System," *Tanganyika Notes and Records*, No. 26 (1948,) p. 3.

The cultivated land, which was located in a zone concentric to the houses, was sub-divided into a half-dozen or so large blocks of fields for the purpose of regulating land tenure and agricultural practices and performing agricultural rites. The sub-divisions each had their own rainmakers who seem to have been the founders of the chiefly dynasties which later acquired considerable political power.

The clans of the Mbugwe were not territorially localized groups, but cut across the political divisions of the tribe. They were concerned mainly with legal matters having to do with property inheritance, personal injury, homicide, and the like*. A man's legal rights were supported by his clan; serious disputes sometimes led to inter-clan wars. In early times, any tribal affairs of greater moment than the *turi* organization could cope with were undoubtedly settled by the clans. The clans also originally formed military units. Thus the early Masai wars are said to have involved the whole Mbugwe tribe, each warrior fighting with his own clan unit.

From the time that the rainmakers established themselves as political as well as ritual leaders, the historical traditions indicate a progressive transfer of political and military power from the clans to the chiefdoms. From the very first there was keen rivalry among rainmakers. Starting, no doubt, as leaders of single villages, they soon extended their ritual functions to include neighbouring *turi*. The people of a region which was expected to benefit from the acts of a rainmaker paid regular tribute in grain and cattle. On this account the early *vasungati* vied with one another to attract tribute-paying subjects to their districts, and frequent shifts of population from one chiefdom to another took place. The boundaries between chiefdoms became definitely established. In order to move to a different chiefdom, the permission of both chiefs was required. New members were always welcome to enter a chiefdom provided that they underwent a purification ceremony. But to discourage members from leaving, it was prohibited to remove a house; thus a chief often had several vacant houses available for enticing new members to bring their cattle herds and join the chiefdom. The rivalry among the *vasungati* resulted in a constant state of magical warfare which occasionally led to bloody battles between chiefdoms.

As the chiefs consolidated their positions, there developed rather elaborate courts (*taka*) in each chiefdom where the *vasungati* conferred with their councillors (*vakolo va itaka*) and with the elders representing the wards within a chiefdom (*vakolo va turi*). Certain other ranks of influential subjects and officials also took part in the government. Among these were the men of the chief's own initiation class (*vovi*) who were expected to be specially loyal to his interests; a group of young men (*vasomba*) who had been adopted as boys and raised by the chief, who were absolutely trusted and were delegated with considerable authority to act as his agents; and, finally, the elders who supervised the cultivated land belonging to the chiefdom (*vakolo vanyinka mondo*—literally, "elders who divide land").

Rainmaking, as the Mbugwe conceive it, is an agricultural rite performed to secure good crops of mtama. The rainmaker-chief was closely associated with the agricultural cycle and carried out various other rites during the cultivating season. Land tenure and agricultural practices were strictly regulated by the

*I have given a short account of the kinship, lineage, and clan system of the present Mbugwe in a different paper (Gray, 1953).

government of a chiefdom. Although the grazing land also profited from a season of good rains, this was regarded as an incidental benefit. A chief was not held responsible for the well-being of cattle and had little control over cattle-raising. This was precluded by a custom of cattle owners sending part of their herds to be tended by friends in distant parts of the country. Thus the owner of a large herd might have his cattle distributed in two or three different chiefdoms. The ownership and inheritance of cattle were matters which concerned only the kinship and lineage groups; while the tasks of tending and herding cattle were carried out by the individual *turi*. The system of cattle-raising and the wide dispersal of the clans were two important factors in maintaining cultural and social unity while the tribe was being divided into several territorial political states.

In course of time, the military functions of the clans were taken over by the chiefdoms. The later Masai wars involved only one or two chiefdoms at a time; the clans could not operate as military organizations in these, since all the clans extended throughout the tribe. With a territorial basis for military organization, an improvement in efficiency was evident. The Mbugwe established their frontier as far north as Mto Wa Mbu at the north end of Lake Manyara. According to tradition, they fought the Masai on even terms, raiding as often as they were raided. Even today the Mbugwe like to point with pride to cattle which they believe are descended from plundered Masai herds, though the distinguishing marks are obscure to an outsider like myself. This tradition is confirmed by Baumann who states that the Masai were often badly cut up in attacking Mbugwe. At the time of his visit the Mbugwe had been raiding the Masai "kraals" at Donyo Kissale ("Durch Masailand " pp. 181-182).

At an early point in Mbugwe history, the conflicting demands of loyalty made by the chiefs and clans must have brought on a crisis which was resolved in favour of the chiefs. In the old days, for example, feuds between lineages sometimes led to inter-clan wars which might draw in several clans on each side. In this way the eighteen clans came to be grouped into seven alliances of from two to four clans each. A chief could only view an inter-clan war with disfavour as a violation of the sovereignty of his territory. On the other hand, a war between two chiefdoms might call on a subject to fight against his clanmates in the enemy force. Eventually the chiefs prevailed: inter-clan wars were outlawed, but wars between chiefdoms continued till the end. Further evidence of the trend towards strengthening the chiefdoms at the expense of the clans is seen in the powers of arbitration that the chiefs gained over matters that were formerly settled by clans. In the case of homicide the legal processes came to be directed by the chief in whose territory the incident occurred; the compensation or *wergild* passed through his hands; the vendetta could only proceed with his permission and under conditions laid down by him. Witchcraft, which in the old days was treated, like personal injury, as an offence against the lineage and clan, was regarded in later times as an offence against the state and punished by the *mosungati* with expulsion or death.

Under the influence of the ruling families of foreign origin, who followed a patrilineal principle in regard to the inheritance of the chieftainship, the social institutions of the Mbugwe took on some patrilineal features. The weakening of the matrilineal clans no doubt hastened this change. The present Mbugwe have a mixture of matrilineal and patrilineal elements which comprise their social

organization. Clan and lineage membership remains matrilineal. Inheritance customs and rules of residence make up a complex institution which is essentially patrilineal in orientation. In general, a person's property is inherited by his (or her) children. But since the greater share of property is in the hands of men, this means that property passes from fathers to sons, except where there are only daughters or the family is very wealthy. The system of kinship terms conforms to the "Crow" type which is often found in matrilineal societies. There are some irregularities in terms for cross-cousins and a few other relatives that suggest a change in the direction of a generation type of system in which the male and female lines are not distinguished.

After these political and social developments had run their course, the tribe represented a federation of politically autonomous territorial divisions. This political structure remained relatively stable for several generations before the indigenous institutions were disrupted by European intervention. The primary social tensions which maintained the system in dynamic equilibrium were to be found between the chiefdoms. The sentiments underlying these tensions are still held by the people. In the last generation or two of independence the Mbugwe seemed to be entering a new historical phase in which the stronger chiefdoms sought hegemonies over their neighbours. Thus Kaiti ya Mweri was taken over by its traditional enemy Kaiti, while Shani Gutadu of Mwada annexed the large country of Shaushi. The rivalry between Kaiti and Mwada was becoming intensified to the point of a struggle for supreme power over the whole tribe.

The type of political system at which the Mbugwe ultimately arrived, in which a series of chiefdoms are loosely federated to form a tribe with no central authority, is not uncommon in Tanganyika. This type possesses some distinctive features which seem not to have been clearly defined as yet. In an interesting essay on this subject, M. Fortes and E. E. Evans-Pritchard* distinguished the two types of African political systems—centralized kingdoms and stateless societies which are held together by ties of kinship and lineage—which undoubtedly predominate in other parts of Africa. A federation of chiefdoms is in some ways an intermediate type: the separate chiefdoms have some of the characteristics of a kingdom-state, while the unity of the tribe is maintained by kinship and lineage bonds which cut across the territorial divisions. In some instances the federation type no doubt develops directly into a centralized government: this seems to have happened in the case of the Hehe tribe and was almost achieved by the Chagga. However, the federation system deserves the status of a distinct type and should not be regarded merely as a transitory phase. With the Nyakusa a trend towards decentralization is manifest: there the chiefdoms seem to have been progressively sub-divided into smaller and smaller units. But the closely related Ngonde of Nyasaland developed a centralized government under a "divine" ruler. With the Mbugwe we are provided with an example of a federation of chiefdoms developing out of a previously stateless society. Tanganyika possesses the material for a valuable comparative study of this kind of native political organization.

The recent history of the Mbugwe under German and British rule, which I hope to present in a later paper, makes a complex story which is not altogether happy. For one thing, there has been a marked decrease in population due to a number of

*M. Fortes and E. E. Evans-Pritchard, "Introduction," *African Political Systems* Oxford, (1940)

causes; in 1898 C. W. Werther estimated the population at 30,000. But the recent happenings in Mbugwe can only be properly understood with some knowledge of the earlier history of the tribe.

BIBLIOGRAPHICAL NOTE

In the bibliography that follows I have listed the writings on the Mbugwe which are of any importance and a few other items which are concerned with the general region. I may say at once that the only anthropological information worth mentioning is to be found in Baumann (1894); his account has been widely used by ethnologists. Oscar Baumann, who had already taken part in three African expeditions, travelling from Tanga to Arusha and crossing the Masai Steppe, arrived at Mbugwe in March, 1892. After a troublesome ten days, during which he was harassed by the hostile Mbugwe, he continued his journey westwards to Lake Victoria and Ruanda-Urundi. Returning through Central Tanganyika, he visited Mbugwe again in January 1893 on his way to the coast. During the second visit, which lasted about a fortnight, he found the Mbugwe friendly and was able to record some observations on their culture. This information is fragmentary and does not altogether agree with the information provided by the present Mbugwe.

Baumann portrays the Mbugwe as arrogant and aggressive. According to his account, their attack was entirely unprovoked—pure belligerency. He states that they customarily plundered Arab caravans, which therefore avoided the region. In him they were confronted with a superior power for the first time; thereafter they revealed themselves as intelligent and upright natives.

A few Mbugwe are still living (1951) who remember Baumann's visit as small boys. According to their accounts, Mbugwe was regularly visited by Arab caravans who carried on a peaceful trade, exchanging beads and cloth for ivory. Trading caravans were required to undergo a purification ceremony before entering the country. When Baumann's expedition appeared it was taken for an Arab caravan which unaccountably came from the north-east rather than the usual south approach. Baumann himself tells of being stopped outside of the country for the usual purification ceremony. The natives say that he refused to submit to the essential part of the ceremony—being sprinkled with the stomach contents of a sheep—but that he marched into Mbugwe and took possession of Mtakaiko's homestead in a high-handed way. The Mbugwe, discussing the affair over their beer pots that night, decided that the health and security of the country were imperilled by the strangers; the next day they attacked Baumann's camp.

A few anthropological observations on the Mbugwe are recorded in Werther (1898, pp. 24-30). A survey of the material culture of the Mbugwe is presented by Luschan (1898, pp. 358-361), who was a director of the Berlin Museum. Information about the geography and hydrology of Mbugwe may be found in Jaeger (1913), Watermeyer and Elliott (1942), and Harris (1951). These accounts also contain scattered ethnographic observations.

The anthropological material on the Mbugwe, scanty as it is, has been extensively used by ethnographers for the purpose of broad reconstructions of African history. Northern Tanganyika has had a strong attraction for ethnologists, because of its variety of unrelated languages existing side by side—Bantu, Hamitic Nilotic, and Click languages. Almost every writer who has dealt with the region

has tried to interpret his findings in terms of waves of Hamitic immigrants, Older Bantu, Younger Bantu, and the like. A full statement of the theories prevailing among German writers is given in Reche (1914); a concise summary of these views may be read in Meyer (1909). The short historical account by Sayers (1930) appears to be based on these German writings. The most recent attempt at a historical reconstruction of the Mbugwe region is by H. Baumann and D. Westermann (1948). Frazer, in the "Golden Bough," and other ethnologists have used Mbugwe material to support various theories of origin.

The type of broad historical reconstruction which Radcliffe-Brown has aptly called "conjectural history" is not of much interest to contemporary anthropologists. The presuppositions concerning cultural diffusion and the relations between race, language, and culture, on which the old theories were founded, have faded with time leaving the conjectural nature of the reconstructions clearly evident. Because of their preoccupation with conjectural problems, the early German anthropologists neglected the aspect of native history which is to some degree recoverable –the events of the last century or two which can be extracted from native traditions. When the traditions of the leading tribes have been carefully analysed and compared, and the archeology of the country is further advanced, the early history of Tanganyika will no longer be a subject for conjecture. An interesting start in this task was made by a German anthropologist, R. Thurnwald, who used only the material already recorded in District Books. ("Black and White in East Africa", London, 1935, pp. 15-72.)

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NOTE: The Mbugwe and the Mbugu tribes have sometimes been confused in the anthropological literature on Tanganyika, The two tribes are quite distinct and, so far as I know, unrelated.

Notes

ARUSHA BOMA

By H. A. Fosbrooke

This note is prompted by the discovery of a photograph, reproduced opposite, of Arusha Boma in the height of its pride, with the Imperial German Ensign flying from the flagstaff, and the proud Hohenzollern eagles emblazoned on the tower. The photograph comes from a German work, "Die Volkerstamme im Norden Deutsch Ostafrikas" by Max Weiss; the date of publication is missing from my copy, but from the area covered by the map, it appears that the author was engaged in the Anglo-German boundary demarcation.

In contrast to the buildings, the majestic outline of Mount Meru, just under 15,000 feet high, shows no discernible change after nearly half a century of weathering. The observant will note, however, that the long ridge in the middle distance, called Oldonyo Sabuk—the Fat Mountain—is no longer forest clad, as shown in the photo. It is now covered with an elaborate pattern of fenced fields and pastures; the latter's close knit Kikuyu grass turf, weeded and manured by the owners, safeguards the soil against erosion as adequately as the previous forest cover.

The present group of Government offices presents a sorry shadow of the original building. Only one section of the perimeter wall now remains, whilst the surrounding ditch has been largely filled in. With the walls thus breached, the front and back gates were rendered useless and have consequently disappeared.

The central tower has not only lost its heraldic device, but also its battlements and turrets; it is now capped with a plain corrugated iron roof.

As in the case of the later elaborate German bomas, e.g. Dodoma—built 1910 to 1912—much of the original construction in the Arusha boma was designed as living accommodation. As late as 1934, the two front buildings were occupied by Government officers. The Provincial Commissioner's office was in the upper half of the two-storey building now solely utilized by the District Commissioner, who in those days, when his duties included those of Revenue Officer as well, had to make do with only the ground floor. The west wing of the same block, now Surveys and Sociology, was occupied by the Vets, whilst the tower block provided Police Headquarters.

Some internal features are of interest: the ceilings of certain offices, constructed of poles with stones in the interstices and a final covering of mud, indicate by their smoke blackened condition that they were once used as kitchens. Other rooms have timber ceilings made of planks well over eighteen inches broad, which are still in excellent preservation and distinctly show the marks of the adzing by which they were smoothed off in place of planing. It would preserve a sense of continuity if one or two features of the present building such as the boarding mentioned above, could be incorporated in the new offices which will eventually rise on the site of the old.

To conclude this note, I attach a reminiscence recently recounted by an Arusha elder named Lonyuki Lekichawo of the Dwati age-set: he must now be well over seventy.

"Seeing the trees being cut down around Arusha Boma reminds me of my youth. At that time, the whole township area was cultivated and covered with banana groves and huts, and the German Administration was centred round the place where the clock now stands. The present Boma had only just been started and the walls were perhaps three feet high. In common with the rest of my age-set, I had been put on to this building job. At that time our fighting with the Germans was over: they did not attack us nor did we attack them.

"One day when we were at this work, six of us were called out and told to climb a very tall tree standing to the West of the Boma where the Police car park is. We were told to climb up with our axes and cut the branches from the upper part of the tree. We climbed up with the aid of a locally made rope such as is used for honey hunting. The Nubi askari pulled the rope away whilst we were up the tree. Meanwhile others were cutting the trunk of the tree with a saw. These were people of some other tribe that had been brought in as labourers by the Germans. While we were still up the tree, it started to fall. There was nothing we could do as the rope had been removed. We all came down with a crash. Of the six of us, three were killed on the spot and three of us escaped. Luckily we were no more than bruised and scratched."

Arusha Boma in German times, with Mount Meru in background

Book Reviews

HISTORY OF EAST AFRICA

By Dr. Richard Reusch

(*Evang. Missionverlag G.m.b. H. Stuttgart, 1954*)

Dr. Reusch has spent some thirty years or more in Tanganyika. He has climbed Kilimanjaro no less than fifty times and his missionary labours in the Northern Province of Tanganyika have been invaluable.

On the eve of his retirement he has undertaken the formidable task of compiling a *History of East Africa*. One is not surprised to find that the work fills close on 350 pages of print.

In his preface the author tells us that he has "heard strange tales and traditions relating to almost unbelievable stories about ancient principalities and about a glorious Empire extending from the southern end of the Red Sea to the mouth of the mighty Zambezi River and ruled by a dynasty of resplendent Sultans, who were so rich that they were ashamed to give gold as a present". Thereafter he "listened to songs which preserved the memory of a magnificent gorgeous civilization and the fame of generations of heroic personalities, who founded those principalities and established the marvellous Empire, who built those large cities, who erected those magnificent buildings". By means of those traditions and a study of ancient local coinages and ruins "the vague picture of the old glorious Empire began to take a definite visionary shape in my soul". Then, unexpectedly he came across some old Arabic chronicles in private possession. Dr. Reusch studied some of these and "the picture in my soul became still clearer".

The first three chapters of the book deal with information given by the ancients regarding the East African coast in pre-Islamic times, the information given by Arab and other geographers in Islamic times and "the time of the Arabia Vikings". Chapters IV and V occupy 130 pages and deal with "the Zeng Empire, its foundation and name" and "the History of the Zeng Empire".

Dr. Reusch has collected a great deal of useful material for his first three chapters from a number of sources, which he cites in footnotes. In one respect he has—quite pardonably—been misled by a statement of Speke to the effect that certain Indian texts showed that the ancient Hindus must have had some communication with the headwaters of the Nile. Speke made this assertion in reliance upon an article published by a Lieutenant Wilford in 1801 in the third volume of *Asiatic Researches*, in which he cited the Hindu *Puranas* as his authority. In the eighth volume of the same periodical Wilford had, however, to make a recantation of everything contained in that article. He had to explain that he had been duped by a Hindu *pandit*, to whom he had said something about European mythology dealing with the Nile and had at the same time asked the *pandit* whether the Hindus had any similar stories. In the course of time the *pandit* supplied Wilford with what purported to be copious extracts

from the *Puranas*. Wilford published translations of these extracts in *Asiatic Researches*. Later he discovered to his dismay that the *pandit* had invented a number of legends and had gone so far as to falsify the manuscript by erasing the name of the country originally appearing therein and substituting Egypt. He had also removed some of the original leaves of the manuscript and replaced them by others of his own composition, which he thought would suit the theories which he believed Wilford was anxious to expound. As soon as he realized that he had been thus victimized, Wilford very properly made public acknowledgment of the fact. Speke was unaware that Wilford had made this acknowledgment until after his *Journal of the Discovery of the Source of the Nile* had seen the light of day but, as he told his friend Colonel Rigby in a letter of 20th April, 1864, it was his intention to omit this reference to the *Puranas* from the second edition of his book. Unfortunately, he never lived to see the second edition through the press and the error has consequently been perpetuated ever since.

Your reviewer has referred to this matter at some length, firstly, because once upon a time he was induced to try to follow the Hindu *pandit's* will-o'-the-wisp and, secondly, because on numerous pages of his book Dr. Reusch tells us that "tradition relates" such and such a thing, but does not state the source of the tradition and does not as a rule give it in the *ipsissimis verbis* of the narrator. Experience shows that there are quite a number of other people besides Wilford's *pandit* who are anxious to oblige by supplying the answer which they think their inquirer wants. Moreover, "obligingness" is not the only defect which renders it unsafe to rely on a number of such traditions. Not infrequently a so-called tradition is propounded to support some political pretension or else a claim to some proprietary right. Admittedly, as your reviewer has not infrequently found, when it is possible to compare the traditional story of some long past event with some contemporary record thereof, it is surprising to find the amount of corroboration which that tradition receives. But this is by no means always the case. It is often quite impossible to reconcile a recently discovered tradition with any contemporary record of the event or even with an earlier recorded tradition dealing with the same subject. In all such cases the more recently discovered tradition must, as often as not, be treated as being distinctly suspect.

Not a few of the traditions set out by Dr. Reusch are most decidedly at variance with contemporary Portuguese records or with traditions collected by earlier researchers into East African history. If these later traditions are at variance with contemporary record or earlier traditions, the burden is most distinctly upon the person propounding the later tradition to prove that such record or earlier tradition is wrong. For example, Portuguese historians such as Barros, Castanheda, Goes, Santos, Bocarro and Faria y Sousa were critical writers who based their works on contemporary despatches and other official records. They may at times have drawn wrong inferences from the evidence before them and they may have failed at other times to appreciate the opposite party's point of view, but they did make genuine attempts to reach fair and accurate findings of fact. Their works most decidedly cannot be impugned or ignored merely because they do not accord with later traditions given to Dr. Reusch.

In reading Dr. Reusch's book one asks oneself what is the archæological evidence to support the statement that there were once three hundred mosques on the island of Kilwa Kisiwani. Again, what is the foundation for the statement

that there was "a dynasty of resplendent Sultans, who were so rich that they were ashamed to give gold as a present?" Your reviewer thinks it must be based upon the account given by Ibn Battuta of his visit to Kilwa in 1332, when he learnt that "most presents in this country consist of ivory; gold is rarely given". The Arabic version of the Kilwa chronicle has something else to tell us about the "resplendent Sultan" whom Ibn Battuta met. Despite the fact that he had been on a pilgrimage to Mecca and had a great reputation for devotion and piety, he had allowed the Friday mosque at Kilwa to fall into such disrepair that the people had to recite their prayers "under the shade of mats and tents". Moreover, he left behind him such a *damnosa hereditas* that his brother and successor, as Ibn Battuta tells us, was compelled to inform applicants for his bounty that "there is nothing left to give".

Again, what is the evidence for the statement that for several centuries there was a "Zeng Empire" with its capital at Kilwa? The Kilwa chronicle might be expected to dilate upon this subject. Except for Suleiman bin Hassan, who was Sultan in the latter part of the twelfth century and who according to Barros' version of the Chronicle "made himself lord of the trade of Sofala and the islands of Pemba, Mafia and Zanzibar and a great part of the mainland", no such pretensions are put forth on behalf of any Sultan of Kilwa. On the other hand, as might be expected, the chroniclers of Lamu and Pate make no mention of any such overlordship on the part of Kilwa and assert that at various dates their own Sultans acquired the hegemony of East Africa as far south as Kilwa and even further to the south. There is certainly nothing to support any theory of a long enduring Zeng Empire with its capital at Kilwa. One also looks in vain for any evidence, either in Dr. Reusch's book or elsewhere, of that "powerful and rich Empire, which embraced Somaliland, Kenya, Tanganyika and Mozambique" and also "extended inland as far as Abyssinia and the Great Lakes" (pp. 214, 215).

Dr. Reusch tells us that the "Zeng Empire" came to an end in 1513 and that thereafter there were no Sultans ruling at Kilwa, but only "Governors appointed by the Portuguese". In actual fact it was in 1513 that the Portuguese evacuated Kilwa, which they had garrisoned since 1505. Dr. Reusch further tells us that Amir Ibrahim, who had fled to the mainland and had been deposed by the Portuguese in 1505, "ruled for the second time as a vassal of the Portuguese for about one year", giving as the dates of this second reign the years 1508–1509. The real truth of the matter is that the Portuguese, making a virtue of necessity, invited him back on the eve of their departure in 1513. Thereafter, as Portuguese historians tell us, he ruled as an entirely independent ruler. The length of his reign is not known. His brother and successor, Said bin Suleiman, is stated by Dr. Reusch to have "ruled as regent and vassal of the Portuguese for about two years". He was no more a vassal of the Portuguese than his predecessor was. Apart from the fact that he succeeded his brother, all that we know about him is that, whilst the Portuguese were in military occupation of Kilwa and his brother was in exile on the mainland, he once raided that island. Dr. Reusch tells us that Said's successor, Muhammad bin Hussain reigned from 1511 to 1513. "He was the last legitimate Sultan, a prince of the old royal house on the ancient throne of Kilwa. After him there was no Sultan. He was forcibly deposed by the Portuguese, because his prestige was uncomfortable for them". He was most certainly not the last legitimate Sultan of Kilwa. Equally certainly,

he was not deposed by the Portuguese in 1513, because, for reasons already given, it is clear that he had not ascended the throne at the time of their departure. As Dr. Reusch tells us, when he became Sultan, he ordered the writer of the Arabic version to compile the Kilwa Chronicle. As that writer tells us he was born in 1498 A.D., it is reasonable to infer that the royal command did not issue until a number of years after 1513.

As Portuguese records show, there were still independent "kings" of Kilwa who conducted an intermittent correspondence with the Governors of Mozambique during the eighteenth century. When H.M.S. *Nisus* visited Kilwa in 1812, there was still a Sultan at Kilwa who traced his pedigree back to the ancient line. It was in fact not until some thirty years later that the last hereditary ruler was deposed and deported by Said bin Sultan of Oman and Zanzibar.

In Chapter VII Dr. Reusch gives us at length "a song or ballad", which "was made known to me by one of my traditionalists" and which deals with the capture of Mombasa in 1528 by Nuno da Cunha. According to that song the Portuguese "blockaded the city and besieged it for four months. But the Sultan and the population defended it obstinately and with desperate courage". When the city was finally taken, "Nuno d'Acunha (sic) spared the city and did not order to ransack it, because he was deeply impressed by the heroic deed". The story of the capture of Mombasa by Nuno da Cunha has been told by at least four Portuguese historians, Barros, Correa, Couto and Faria y Sousa, all of whom relied for their materials upon contemporary reports in the Portuguese national archives. According to them, the Portuguese landed on the island one afternoon and captured the walled town the following morning, after the inhabitants had fled into the interior of the island. Nuno da Cunha made no pretensions to chivalry. He reported that he had plundered the town. Perhaps he was not greatly impressed by the resistance offered by the defenders. Faria y Sousa tells us that, as the male inhabitants were fleeing from the town, a niece of the "king" of Mombasa called after them "What is this? Are the knights of Mombasa so brave that they are ready to lose their homes in this city and entrust themselves to the tender mercies of the Kaffirs in the hills over there (sc. on the mainland)?" To this her lover replied, "You have taunted me enough. I swear by the love I bear you that, before two days are out, those who wish me well will mourn for me and that you, if you love me, will not be able to reward me with your love". Shortly afterwards he and his followers emerged from a concealed place and attacked a party of Portuguese, but were all killed to a man. Dr. Reusch makes no mention of this story, but when, as in this case, "even the ranks of Tuscany could scarce forebear to cheer", one feels that it rings true. One also feels that Nuno da Cunha would not have tried to conceal from higher authority any difficulties which had confronted him. If he had had to settle down to a four months' siege, he would have said so and would not have asserted that he captured the place within about twenty-four hours of landing without the loss of a single man.

Later in Chapter VII Dr. Reusch tells us that "tradition relates that the Portuguese helped to rebuild Gedi on a smaller scale" after the invasion of the Wazimba in the last years of the sixteenth century, but one looks in vain in Mr. J. S. Kirkman's recent book on Gedi for any archæological confirmation of this statement. Portuguese records know nothing whatever of any place called

Gedi or by any other similar name. Moreover, in the last decade of the sixteenth century Portuguese attention was very much concentrated upon putting the island of Mombasa into a proper state of defence.

In his account of the rebellion in 1631 of Yusuf bin Hassan (once Jeronimo Chingulia) Dr. Reusch centres everything round a tradition, which makes Yusuf an outward Christian secretly professing Islam, who had a Muslim wife named Fatinini. "Tradition reports" that it was the abduction of this girl by the Portuguese governor of Mombasa which was the final spark causing a rebellion, which began with the entry of Yusuf by night into Fort Jesus "through a small back gate with the help of a forged key" and the murder of the sleeping governor in his bed. Faria y Sousa, who has some hard things to say about the Portuguese governor, says nothing about Fatinini. Both his and another anonymous account, which is to be found in the Vatican Library, tell us that he was murdered in broad daylight by Yusuf, who had obtained entry to the Fort under the colour of paying a ceremonial visit. A year or so later Yusuf addressed a self-exculpatory letter to the Viceroy at Goa, which is still preserved in the archives at Lisbon. He explained therein that he had rebelled because the murderers of his father and mother had gone unpunished and because the Portuguese governor had not treated him with the respect to which he was entitled. There is not a word in the letter about any wrong or outrage done to the writer's womenfolk. Stories of rebellions springing from outrages to women have been told in many lands. Those of Lucretia and Virginia have been immortalized in verse. In England the story of Wat Tyler's daughter is yet another example of this extremely popular *motif*, but that story was first told by the Elizabethan annalist Stow some two centuries after the incident is alleged to have taken place. The very attractiveness of the theme renders each such story suspect. In Professor Treveleyan's words, "the story of Wat Tyler's blow has been consecrated by tradition, but it must go the way of William Tell's shot". For precisely the same reason Fatinini and her story must go the same way.

In Chapter VIII we are told that in 1826/7 Said bin Sultan of Oman "sailed with his fleet to Mombasa" and deposed the Mazrui governor, Suleiman bin Ali. In actual fact the Mazrui themselves deposed Suleiman in 1826 during the period of the brief British protectorate, which Dr. Reusch entirely ignores. Said bin Sultan never reached Zanzibar until the end of 1828, two years after the British protectorate had been relinquished.

One must most decidedly differ from Dr. Reusch when he tells us that Said bin Sultan restored the authority of the Imam's office. Though frequently so styled by his European contemporaries, neither Said nor his father ever claimed to be Imam of Muscat. In actual fact it was during Said's reign that the Imamate passed altogether out of the Al Busaidi family.

Said bin Sultan did much to encourage the opening up of trade with the interior of the African continent, but one would be interested to know what are the authorities for the statements that he "fortified" Bagamoyo, Tabora and Ujiji, "garrisoned" Mwanza and thence "extended his influence into Bukoba, Ruanda-Urundi, Uganda, and even the eastern part of the Congo". One is aware of the oft quoted diptych that:

"When one pipes in Zanzibar,
They dance at the lakes,"

but frequent repetition does not make that saying true. Neither Manwa Sera nor Mirambo of Unyanyembe, nor Suna nor Mutesa of Buganda ever danced to the tune of the pipes in Zanzibar. They in fact saw to it that the dancing was performed by their visitors (including those from Zanzibar) to tunes called by themselves.

Whilst one fully appreciates that this book is the outcome of inquiries and researches extending over thirty years, one at the same time cannot but feel that much of the information supplied to the author has not been submitted by him to any real critical examination enabling him to sift the grain from the chaff. Contemporary records cannot be entirely ignored, unless they are so inherently improbable as to be unworthy of credit. They most certainly cannot be impeached because they are at variance with so called traditions, which have only come to light of recent years. J.M.G.

THE ARAB CITY OF GEDI

By J. S. Kirkman

(Oxford University Press for the Royal National Parks of Kenya. Gedi National Park. 1954. Shs. 30/-)

This is a detailed account of the first planned and carefully executed excavation at one of the ruined Islamic settlements on the coast of East Africa.

The book is concerned mainly with the Great Mosque of Gedi, situated to the south of Malindi on the Kenya coast and the contents are divided into two parts, the first dealing with site and architecture and the second with finds. The description of the mosque and adjacent tombs show that these are basically similar to those found at many comparable sites in Tanganyika, Mafia and Pemba and help to confirm the close connections which are believed to have existed in the past between the East African littoral, Western India and the Persian Gulf. The description of the finds is of exceptional interest as it contains the first report on Chinese celadon wares from a site on the East Coast of Africa. The importance of the locally-made unglazed earthenware is rightfully stressed and in connection with this a brief but excellent account of the history of tribal migrations in the Gedi area serves to elucidate part of the story of the ruins.

The comprehensive system of tabulation and cross-referencing employed in this book is convenient and compact, while the plans and sections provided are good. The plates are clear except for the few illustrating the finds which are too small.

The work undertaken appears to have been of a very high standard and this account of the excavation, which is perhaps too specialized for the general reader, will be of great interest to students of both East African history and Chinese celadon.

G. H.

THE PREHISTORY OF EAST AFRICA

By Sonia Cole

Penguin Books, Harmondsworth, Middlesex.
(301 pp. and 16 plates and 43 text figures)

This is a book which should have great appeal for the readers of *Tanganyika Notes and Records*, as it sets in perspective many of the subjects treated by articles and reviews in this journal. Many have heard of Olduvai Gorge, Eyasi

Man, and the Kondoa Rock Paintings, but few have time or inclination to dig into all the learned works and controversial articles in the scientific press to gain a clear picture of the distant past. Now Sonia Cole has done that for us and presented the results in the form of a Pelican Book which is one of the best half-crown's worth that I have come across for a long time.

After a chapter "Introducing East Africa", the author deals with the "Climatic Background" giving a precise description of the Pluvial and inter-Pluvial periods, and their possible correlation with the Ice Ages. Most people know that much of northern Europe was covered at various periods in the past with an ice-cap, though only the specialist is likely to know the names of the successive glaciations. In East Africa, far from knowing the names of the Pluvial periods, which most probably correspond with the Ice Ages, few people realize that East Africa enjoyed such rainfall in the past, that the whole of the Serengeti Plain was one vast lake, whilst in the Kagera valley on the Tanganyika–Uganda border terraces have been found 270, 220, 110, and 30 feet above the present river. It was this river which gave its name to the earliest pluvial, Kageran, followed successively by the Kamasian, the Kanjeran and the Gamblian. As Mrs. Cole points out, it is difficult to memorize a series in which three out of four names begin with a "K" but if the "Ka-" is regarded as a prefix, the third letter of each name is found to be in alphabetical order.

Translated into terms of years, the last pluvial, the Gamblian, equated with the Wurm glaciation probably lasted from 70,000 to 10,000 B.C., since when there have been minor climatic fluctuations, about which Mrs. Cole gives details.

Chapters III and IV are devoted to man's forerunners, the so-called ape-men and to early man. East Africa is well to the fore on the world stage in this respect. The famous Proconsul skull and other Kenya Miocine apes have thrown considerable light on man's evolution. The many finds of human stock can, in later days, be divided between the Caucasoid, developing into the Hamitic, the Bushsmanoid and the Australoid. It is not clear where the negro stock sprang from—further research and new discoveries must be awaited here—but an interesting feature is his very late arrival on the East African scene. The presence of Bantu, Nilote, and Nilo-Hamitic stock, all with varying amounts of negro blood, must be reckoned in centuries rather than in millenia.

Returning once more to the distant past, the hand axe culture at Olduvai reveals that through the course of the last three pluvials, man took hundreds of thousands of years to develop from the user of chipped pebbles to the maker of highly developed hand axes.

Thereafter, numerous stone-age cultures develop, and chapters VI, VII, and VIII are devoted to the Paleolithic or old stone-age, Mesolithic or middle stone-age, and Neolithic or new stone-age respectively. The last named brings us down to very recent times when man had developed from a hunter to a settled agriculturist, practising pottery in addition to the making of stone bowls and polished axes which are characteristic of the period.

The art of early man in East Africa of which Tanganyika has a virtual monopoly in the form of rock paintings, is dealt with next. *Tanganyika Notes and Records* has featured this subject in the past and the inevitable question is always posed "How old are they?" Some comparable paintings exist in Northern Rhodesia, where by association with stone-age implements, a tentative date of

850 B.C. has been assigned to the paintings. More recently, by the new technique of radio-carbon dating, there are indications that this date may have to be shifted backwards by some thousands of years.

Mrs. Cole concludes with a short chapter on "The Beginnings of History". She expressed some doubt on the wisdom of including this, but I am glad she did; and not only for the value of the information which she gives us. More particularly it is the paucity of the material, to which she draws attention, which reveals how great is the lag in research into what may be termed the protohistoric period, as compared either with the pre-historic or the historic. We know more about Africa and its inhabitants 50 or 50,000 years ago, than we do of the picture as it appeared 500 years ago.

Some readers may think that the work under review falls into the text book class rather than into the popular, such as one would expect in a Pelican book. But it is difficult to deal in lighter vein with events which occurred many millenia ago, and with the evidence and reasoning by which these are unravelled. The maps, text figures and illustrations help here—many more than one feels entitled to in a book of this price. If you find one chapter too heavy going, move on to the next; you will find something to interest you there, and you will probably have your interest so stimulated that you will turn back to see what you have missed.

H. A. F.

DEFEATING MAU MAU

By L. S. B. Leakey, London (Methuen & Co. Ltd.) 1954. 152 *pp.*

This small book follows up *Mau Mau and the Kikuyu* which was published by Dr. Leakey in December, 1952 within two months of the declaration of the Emergency and reviewed in *Tanganyika Notes and Records* No. 34, January, 1953. During the two years which have elapsed a great deal of literature has been written on the subject of Mau Mau which has tended to overshadow Dr. Leakey's scientific and sober early work. For this reason the back-ground might have been recapitulated rather more fully, including a repetition or an elaboration of the map which accompanied the first volume. As an example, in Chapter 8—"Mau Mau and other Tribes"—reference is made to the Kamba, Teita, Luo, Masai, Kipsigis, etc. Only the well-informed know the position of these tribes relative to the Kikuyu, and few would be able to quote approximate population, but without such data, it is difficult to appreciate in its proper perspective the danger of a spread of Mau Mau.

A large proportion of this work is descriptive material. Chapter I—"The Present Position"—uses the interesting and effective device of quoting numerous Mau Mau incidents as reported in the course of a single week in the local press. Chapter 2 deals with Mau Mau aims which Dr. Leakey summarizes as (i) recover the land "stolen from us by the white man", (ii) obtain self-government, (iii) destroy Christianity, (iv) restore ancient customs whenever possible, (v) drive out or subjugate foreigners, (vi) abolish soil conservation, and finally (vii) increase secular education.

Chapter 3—"Mau Mau Organization"—gives fuller details than have previously been published on the inter-relationship between Mau Mau, the Kenya African Union and the Kikuyu Central Association which had earlier been

proscribed. Details revealed of the internal organization of courts, askaris, executioners, pass-words, etc., are most revealing and refute the die-hard opinion which contends that the African is incapable of organizing himself and therefore should be denied a share in local or central government.

The next three chapters—"Mau Mau Religion", "Mau Mau Propaganda" and "Oath Ceremonies"—deal effectually with one and the same subject since one of the chief vehicles of propaganda was the singing of hymns suitably perverted to spread Mau Mau ideas in place of Christianity. There is no doubt that Dr. Leakey is right in considering that Mau Mau is filling the vacuum in the Kikuyu's mind caused by the breakdown of old religious beliefs in those who have not fully accepted Christianity, but if Mau Mau had had genuine religious appeal, it would have spread itself without the need for compulsion so frequently resorted to by its supporters and would have been the subject of much more overt demonstration, the lack of which supports the conclusion that religion is here perverted for political ends.

Then follows a series of Chapters, 7–10, dealing factually with the subjects "Mau Mau Methods", "Mau Mau and Other Tribes", "Kikuyu Loyalists and Home Guards" and "The Handicaps of the Security Forces". This material calls for little comment and it is the two concluding chapters entitled "What Must Be Done" which deserve fuller analysis. Dr. Leakey lists his proposals under five headings—Religious, Educational, Economic, Social and Political Reforms. It is perhaps significant that this section occupies only one-sixth of the total book and in fact covers little new ground when compared with the previous solutions suggested in *Mau Mau and the Kikuyu*. This, however, should not be interpreted as criticism of the solutions, but rather as revealing the unwillingness of those responsible to adopt such solutions; let us analyse them more fully:—

1. Religious

Here the suggestion is that Christianity, as taught to the Kikuyu, should be the basic Christianity of the New Testament rather than the mixture of religious dogma and West European social conventions which, adapted as they are to our society, have so lamentably failed to fill the vacuum in African society which the breakdown of tribal belief has caused.

One cannot but agree with the pessimism which he expresses in the preface when he says "while I am sure that the simple teachings of Christianity can provide the answer for this, I am less sure that the churches will be willing to free themselves from so much which is in their rules and which goes beyond fundamental Christianity". More particularly is this so since their recent experience with the Kikuyu Independant Schools will make both Government and the Missionary Societies particularly loath to encourage similar independant bodies in the religious and educational sphere in the future.

2. Educational

Dr. Leakey rightly places great emphasis on the necessity for a high moral standard amongst the teachers. As with religion, so in the educational sphere we have created a vacuum; we have broken down the old rigorous standards which were inculcated by constant preaching and precept in the home and emphasized by the rigours of the initiation camps at which the elders devoted so much time and thought to the training of the young. It cannot be hoped that four hours a

day, five days a week, nine months a year for four or six years, devoted to the teaching of literacy can influence the rising generation to the same extent, especially as much that is taught in the schools must inevitably undermine rather than reinforce the discipline in the home. In this connection, Dr. Leakey says "A complete overhaul of our educational system is needed not only as it affects the Kikuyu but also all the other tribes", and again "the adult African has got to live in *a very complex multi-racial society*, and for this reason the need for careful training and preparation is far greater, whilst in fact there is much less of it."

3. Economic

Dr. Leakey's main points under this heading are firstly permanent urbanization with old age pensions and similar social services as inevitable concomitants. Whilst the serious overcrowding in the Land Units is mentioned, little is said about the possibility of raising production per acre nor is sufficient credit given for the amount that has already been achieved in this direction. It is in the matter of squatter labour in the White Highlands that Dr. Leakey produces a novel solution which I am surprised has received so little attention. He suggests that areas should be set aside for villages where African labourers working on adjacent European farms could reside in security. In England the tied cottage of the agricultural labourer has gone by the board and similarly, either by the adoption of Dr. Leakey's scheme or some other, the squatter system is due for radical amendment.

4. Social

In the matter of social reform, Dr. Leakey re-emphasizes the points which he raised in his previous work: (i) the necessity for the introduction of birth-control, not by active propaganda—which would lead to immediate resistance—but by instituting a system whereby knowledge can be acquired as and when demanded; (ii) the urgent need for breaking the colour bar, in which matter slow but satisfactory progress has been noted in the last two years, and (iii) the desirability, at least by the leaders of all three races, of the adoption of a common language. Two additional points of importance are introduced, one concerns the employment of teen-age girls in urban conditions and the other the development of a stable vernacular press.

5. Political

Suggestions for reform under this heading are confined to the last two pages of this work. These are devoted to adjustment of voting procedure and similar reforms at a territorial level, but little mention is made of reforms in local government. It can be argued that one important cause of Mau Mau is to be found in the sphere of local government in the White Highlands, where local government is vested entirely in the land-owning white community. The tens of thousands of Kikuyu squatters—now back in the Land Units—had no courts, no schools, no dispensaries or other such services over which they had any control. They were entirely dependent on what the council or what the land-owners provided for them. This was in many cases not inconsiderable, but at local as well as national level many people would rather govern themselves badly than be governed well by an alien race. In the Land Units also, the problems of local government have been tackled in a manner different from that employed in neighbouring territories.

When faced with the problem of providing a segmentary or stateless society—as typified by the Kikuyu on first contact with the British—with a political system suitable to modern conditions, the policy adopted in Kenya was the introduction of chiefs and councillors, the former as paid government servants and the latter under direct government control with the D.C. as chairman of council.

Recent events must have brought about even more drastic changes in the social and political structures of the Kikuyu. The policy of "villagization" must have had immense social repercussions, while the agricultural policy of consolidation of holdings must similarly have affected the indigenous land tenure system. As long ago as 1945 Lambert and Wyn Harris—the latter now Governor of the Gambia—recommended that "Government should recognize and use as far as possible the indigenous institution in matters of internal land control and so preserve a 'traditional conception' ". It would have been of singular interest had Dr.Leakey recorded how far such recommendations had been carried out and how far the failure to implement them had contributed to present social unrest. Since the book under review was published, the heartening news of the renunciation of Mau Mau by the Kenya Meru has been received. It may not be without significance that in this area more than elsewhere efforts were made to adapt the indigenous social structure to the needs of modern local government and land usage.

It has been a popular pastime in some quarters to decry the efforts of those who maintain that the greatest progress can be achieved by the adaptation to modern conditions of indigenous institutions. A moment's reflection will reveal one organization in which this policy has achieved startling results; it is in Mau Mau itself. Here more than anywhere have we been given a practical illustration of the blending of ancient and modern by determined leaders. They have developed a system sufficiently powerful to enlist the majority of the tribe into their service and to unleash forces of destruction which are costing many millions of pounds to bring under control. Can we learn how to blend the old and new so as to produce an equally strong positive force which will develop instead of destroy the soul and the soil of the Kikuyu?

H. A. F.

Correspondence

Dear Sir,

Thank you for the kindly way in which the Tanganyika Society has welcomed the formation of the Tanganyika Archaeological Society.

The Society is being formed to study the ancient sites and monuments of the Territory and to raise funds for this purpose. Such an aim cannot be carried out without trained and experienced persons. It is a tribute to the importance of the study proposed that Sir Mortimer Wheeler, C.I.E., D.Litt., F.S.A., F.B.A., formerly Director-General of Archaeology in India, and today one of the foremost living archaeologists in Britain, has honoured us by consenting to lead an expedition to Kilwa Kisiwani, its adjoining sites and Mafia this dry season. He is to be accompanied by the Rev. Dr. A. G. Mathew, F.S.A., whose researches in Kilwa in 1951, in company with Mr. J. P. Moffett, are already well known.

It is the intention to make a preliminary survey this year in order to mount a full scale expedition in the same area in 1956—provided sufficient general support is obtained. In years to come it is hoped that operations may extend to other sites.

May I, through you, invite your readers to join the new Society? The subscription will be low, probably not more than one guinea, but it is hoped that donations will be forthcoming. The Tanganyika Society has, I believe, never sought to subvent the researches in the very many different fields of its contributors to *Tanganyika Notes and Records*. It is our hope to have the closest relations with the Tanganyika Society. But, unfortunately, archaeology is a very costly form of research, and demands specialized knowledge and experience. This reason has rendered a new approach to the problem necessary. And without research of this kind, knowledge of the history of our ancient sites and monuments is in danger of coming to a stand-still.

I am, Sir,

Yours etc.,

G. S. P. Freeman-Grenville,

Acting Honorary Secretary

Sir, * * *

The map with the excellent article *Maritime Relics of the 1914-18 War* in your January 1954 number is not a true one. It shows an island to the west of the *Konigsberg* wreck, which was in fact a dry land route to Dar es Salaam. The reason it was moored there was for taking defective machinery to the dockyard. The two waterways south of the wreck do not exist. Perhaps the map was copied from the old "Mohoro" German map which is incorrect.

The two small steamers shown south-east of Kikale are in fact south-west of Kikale far up the Mbumi creek west of the old road from Kikale to Muhoro which is nine miles south of Msomeni on the Rufiji and not north as shown in this map. Batja should be Beta. Batja is on the south shore of the Suninga arm within sight of Salale where there was a ginnery and where shot-down airmen made a raft to escape out to sea with the tide. This incident is written about in *The Konigsberg Adventure* by Chatterton.

Yours faithfully,

R. de la B. Barker.

Dear Sir,

It is with great interest that I read the article on "Medieval Mosques near Dar es Salaam" by Mr. G. Freeman-Grenville (*T.N.R.* No. 36). I feel, however, that certain points made in the article call for criticism.

The sherd (Mus. Reg. No. 11.53.A70) presented to the Museum, which was found by the kibla of the mosque at Msasani and which is described by Mr. Freeman-Grenville as 12th or 13th Century Persian or Near Eastern ware, is actually 19th Century Chinese blue and white porcelain export ware, of a well known type. The remaining basal part of the kibla is not, as suggested, carved from a solid block of stone but rather unevenly constructed in coral and mortar and is more likely to be part of a 17th or 18th Century mosque.

With regard to the small mosque near the beach at Mjimwema, the plate, which is in good condition, cemented into the ablutions is of a well known type of 18th Century Chinese blue and white export ware and is not a late Ming piece as stated in the article.

Yours faithfully,

G. Hunter,
Curator
King George V Memorial Museum,
Dar es Salaam

ERRATA

The following corrections should be made to *Tanganyika Notes and Records* No. 37 :—

(i) List of Articles. Article No. 5 should read:

The Defensive Measures of Certain Tribes in North-Eastern Tanganyika. Part III. Chagga Forts and Bolt Holes.
By H. A. Fosbrooke.

(ii) Article No. 1. Sea Fishing on the Tanganyika Coast.
By G. W. Hatchell, O.B.E.

Pages 26 and 27 for "Blue-finned Tunny—G. Alalungu" substitute Yellow-finned Tunny (G. Albacora).

Page 27, eighth and ninth line, should read: The largest heard of on this coast is one of 12½ lb. but one of 70 lb. has been caught near Durban in South Africa.

(iii) Article No. 3. Memoirs of an Arabian Princess.
By Sir John Gray.

Page 57, after line 2 insert: "English. Eventually she reached London where she was met by"

Page 58, transfer to the top of page 58 the first eight lines of the paragraph beginning "Emily Ruete therefore had to return to Germany . . . "

Page 69, Note (2), line 9. For "strength and character" "strength of character".

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Supplements to *Tanganyika Notes and Records*

UTENZI WA KIYAMA

ARABIC SCRIPT FOR SWAHILI STUDENTS